REPORT RESUMES

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WORKSHOP ON ORGANIZATION AND OPERATION OF COOPERATIVE WORK EXPERIENCE PROGRAMS IN TRADE AND INDUSTRIAL EDUCATION. ~~(TUSKEGEE INSTITUTE, AUGUST 14-SEPTEMBER 1, 1967)~~. FINAL REPORT.

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DESCRIPTORS- *TRADE AND INDUSTRIAL EDUCATION, *COOPERATIVE EDUCATION, HIGH SCHOOLS, COLLEGES, TEACHER EDUCATION, *GUIDELINES, PROGRAM ADMINISTRATION, ORGANIZATION, SCHOOL INDUSTRY RELATIONSHIP, EMPLOYER ATTITUDES, *PROGRAM EVALUATION, *WORKSHOPS, EDUCATIONAL OBJECTIVES, DISADVANTAGED GROUPS, STATE DEPARTMENTS OF EDUCATION,

THIRTY-NINE TRADE AND INDUSTRIAL AND VOCATIONAL TECHNICAL TEACHERS AND SUPERVISORS FROM 19 STATES PARTICIPATED IN A WORKSHOP TO PLAN AND EXECUTE A COMPREHENSIVE EXAMINATION AND EVALUATION OF THE COOPERATIVE WORK EXPERIENCE PLAN OF EDUCATION RELATIVE TO TRADE AND INDUSTRIAL EDUCATION. THE WORKSHOP ORGANIZATION INCLUDED CONSULTANT PRESENTATIONS, GROUP DISCUSSIONS, TASK FORCE PARTICIPATION AND REPORTS, AND REACTOR PANELS. AN AUTHORITY IN SOME AREA OF VOCATIONAL-TECHNICAL OR TRADE AND INDUSTRIAL EDUCATION MADE A PRESENTATION AT THE BEGINNING OF EACH DAY OF THE WORKSHOP. THESE PRESENTATIONS, INCLUDED IN THE DOCUMENT, WERE (1) "THE COOPERATIVE WORK EXPERIENCE PROGRAM--A PERSPECTIVE VIEW" AND "WHAT IS THE APPROPRIATE EDUCATIONAL LEVEL FOR OFFERING COOPERATIVE WORK EXPERIENCE PROGRAMS," BY F. H. CARTER, (2) "AIMS AND OBJECTIVES OF COOPERATIVE EDUCATION," BY F. VANDERGRIFT, (3) "WHO IS TO BE SERVED BY COOPERATIVE WORK EXPERIENCE PROGRAMS," BY W. W. WOLANSKY, (4) "ADVANTAGES OF COOPERATIVE WORK EXPERIENCE PROGRAMS," BY J. A. JARVIS, (5) "THE INGREDIENTS OF A MODEL COOPERATIVE WORK-STUDY PROGRAM" AND "GUIDELINES FOR THE COOPERATIVE WORK EXPERIENCE PROGRAM," BY W. M. BATESON, (6) "ORGANIZATION AND ADMINISTRATION OF COOPERATIVE WORK EXPERIENCE PROGRAMS" AND "RECOMMENDED PRACTICES FOR COOPERATIVE WORK EXPERIENCE PROGRAMS," BY G. H. MILLER, (7) "CURRENT DEVELOPMENTS AND TRENDS IN COOPERATIVE WORK EXPERIENCE PROGRAMS RELATING TO TRADE AND INDUSTRIAL EDUCATION," BY E. M. EDDY, (8) "INDUSTRY'S ATTITUDE TOWARD COOPERATIVE EDUCATION," BY W. R. GOLDSTON AND F. W. RAGAN, JR., (9) "THE ROLE OF STATE EDUCATION DEPARTMENTS AS RELATED TO COOPERATIVE EDUCATION," BY J. F. INGRAM, AND (10) "THE DISADVANTAGES AND IMPLICATIONS FOR COOPERATIVE EDUCATION," BY W. V. PAYNE. (EM)

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"Workshop on Organization and Operation of Cooperative Work Experience Programs in Trade and Industrial Education"

August 14 --- September 1, 1967

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WORKSHOP ON ORGANIZATION AND OPERATION OF COOPERATIVE WORK EXPERIENCE PROGRAMS IN TRADE AND INDUSTRIAL EDUCATION.

Project No. 7-0444
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Tuskegee Institute
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TABLE OF CONTENTS

Page

List of Tables. vi

INTRODUCTION. 1

Definitions 2
Historical Background 3
Problems. 3
Review of Selected Research 4
Purpose 5
Objectives. 5

METHOD

Preplanning 5
Recruitment of Participants 5
Selection of Participants and Alternates. 7
Selection of Coordinator-Consultant and Visiting Consultants. 8
Procedure for the Workshop. 9
The First Day 11

RESULTS

Evaluation of Workshop by Participants. 12
Evaluation of the Workshop. 17

DISCUSSION. 22

CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Conclusions 24
Implications. 25
Recommendations 25

SUMMARY 25

REFERENCES. 27

APPENDICES. 28

Letter to State Directors . . . . A- 1
Letter to Land-Grant College. . . . . B- 1
Brochure. . . . . C- 1

Table of Contents Continued

Page

Application for Enrollment. . . . . D- 1
Official List of Nominees . . . . E
Criteria Used in Selecting Workshop Participants. . . . F
Letter to Applicants. G
Letter to Alternates. H
Acceptance Card I
Follow-Up Letter. . . . . J
List of Participants. K
Workshop Consultants. L
Program . . . . M- 1
Daily Evaluation Sheet. . . . . N
Total Workshop Evaluation Sheet . . . . O
Presentations Made by Consultants . . . . P

The Cooperative Work Experience Program -- A Perspective View - FAIRCHILD H. CARTER. . . . . P- 1

Aims and Objectives of Cooperative Education - FRANK VANDEGRIFT . . . . P- 9

The Disadvantages and Implications for Cooperative Education - W. VINCENT PAYNE . . . . P- 19

What is the Appropriate Educational Level for Offering Cooperative Work Experience Programs? FAIRCHILD H. CARTER. . . . . P- 22

Who is to be Served by Cooperative Work Experience Programs? - WILLIAM W. WOLANSKY. . . . . P- 27

Advantages of Cooperative Work Experience Programs: (a) Educational; (b) To the Student; (c) To Business and Industry - JOHN A. JARVIS. . . . . P- 32

Ingredients of a Model Program of Cooperative Education - WILLIARD M. BATESON . . . . P- 41

Guidelines for the Cooperative Work Experience Program - WILLARD M. BATESON. . . . . P- 46

Organization and Administration of Cooperative Work Experience Programs - GEORGE H. MILLER . . . . P- 53

Page

Recommended Practices for Cooperative Work Experience Programs - GEORGE H. MILLER. . . . . P- 61

Current Developments and Trends in Cooperative Work Experience Programs as Related to Trade and Industrial Education - E. MAX EDDY. . . . . P- 68

Industry's Attitude Towards Cooperative Education - WALTER R. GOLDSTON . . . . P- 84

Industry's Attitude Towards Cooperative Education - F. W. RAGAN, JR. . P-92

The Role of State Education Departments as Related to Cooperative Education - J. F. INGRAM . . . . P- 96

LIST OF TABLES

Title Page

Table I Results of Participant Recruitement 9

Table II Summary of Participants' Evaluation of Workshop Sessions. 13

Table III Summary of Total Workshop Evaluation Sheet. 15

Table IV Summary of Participants' Evaluation of Daily Sessions 18

Table V Summary of Participants' Evaluation of Daily Sessions 19

Table VI Summary of Participants' Evaluation of Daily Sessions 20

INTRODUCTION

New impetus is currently being given to the concept of cooperative work experience in vocational technical, trade and industrial education. Cooperative work experience is an effective plan of education which integrates classroom experience with practical industrial situations to provide a regular and essential element in the student's total educative process. The idea of a more effective educational method for increasing the quality of student learning has long had great appeal to educators and students alike.

The number of colleges, universities, and high schools adding or expanding cooperative plans of education in their curricula is steadily increasing. The National Commission for Cooperative Education estimates that there are more than 100 colleges and universities with over 56,000 students actively engaged in cooperative work-study programs. When the high schools with diversified occupation programs and the vocational and technical schools with work experience programs are added to these figures, there is a dramatic increase in the use of cooperative education as a means of providing unique educational experiences for students in the "world of opportunity."

In view of this growing emphasis and in consideration of the unique position of Tuskegee Institute to make an important contribution to this renewed effort in technical and vocational education, the School of Mechanical Industries developed and conducted a three-week summer workshop in cooperative work experience programs in trade and industrial education. The specific purpose of the workshop was to promote and expand cooperative work experience by apprizing teacher educators, coordinators, supervisors, and other interested persons, of the vast potential and opportunity for student motivation and maturation that are inherent in the effective utilization of the cooperative work experience concept. It is the considered opinion of experts engaged in this educational effort that cooperative education programs enable students to acquire work experience related to their studies in a way that is not possible under any other conditions.

Forty participants representing vocational, technical, and trade and industrial education were selected to engage in workshop sessions on cooperative work experience programs for a period of three consecutive weeks.

Persons accepted into the summer workshop were experienced in the operation of vocational, technical, and trade and industrial education programs on the high school as well as college and university levels. This prerequisite base provided desirable educational breadth and balance for effectively "getting at" the important issues and problems in cooperative work experience and work-study programs. Through planned presentations by consultants, group discussions, and task force group participation and evaluation, participants gained insights into the advantages offered by a vigorous program of cooperative education.

DEFINITIONS (1) - The following definitions will be helpful in clarifying the meaning of terms related to cooperative education:

COOPERATIVE EDUCATION - A program for persons who are enrolled in a school and who, through a cooperative arrangement between the school and employers, receive part-time vocational instruction in the school and on-the-job training through part-time employment. It provides for alternation of study in school with a job in industry or business, the two experiences being planned and supervised by school and employers so that each contributes definitely to the student's development in his chosen occupation. Work periods and school attendance may be on alternate days, weeks, or other periods of time, but the hours at work are during the regular school year. This plan of training is used extensively in various phases of vocational education.

WORK EXPERIENCE - Employment undertaken by a student while attending school. The job may be designed to provide practical experience of a general character in the work-a-day world.

WORK EXPERIENCE EDUCATION (Occupational Experience) - Employment undertaken as a part of the requirements of a school course and designed to provide planned experiences, in the chosen occupation, which are supervised by a teacher-coordinator and the employer.

WORK-STUDY PROGRAM - Administered by the local educational agency and made reasonably available (to the extent of available funds) to all eligible youths in the area served by such agency. Employment under the program may be for the local educational agency or some other public agency or institution and will be furnished only to students who (a) have been accepted for enrollment as full-time students in an approved vocational education program, (b) need earnings to continue their vocational education, and (c) are at least 15 and less than 21 years of age. No student shall be employed under the program more than 15 hours in any class week or paid more than $45 in any month or $350 in any academic year, except in special cases.

HISTORICAL BACKGROUND - The cooperative work experience or work-study program has expanded and undergone significant changes since its founding in 1906 by professor Herman Schneider (2). Although its first growth period from 1906 to 1942 was moderate but steady, cooperative education has expanded to include a variety of different curricula in industrial, technical, business, and liberal arts education. During its second growth period, which began in 1946 after the close of World War II, some institutions began experimenting with a variety of approaches for developing the needed flexibility to provide experiences that were relevant to acquiring occupational competence.

Although Tuskegee Institute has a long history of involvement with cooperative work experience and work-study, these programs have only recently come back into prominence as voluntary programs to supplement academic engineering education. A formal type of summer work experience program is now being promoted by the school of Mechanical Industries as a part of its instructional programs.

The 1967 summer workshop on cooperative work experience programs in trade and industrial education should serve as a needed stimulus for expanding cooperative education to other educational areas at Tuskegee Institute, as well as at other institutions that are involved.

PROBLEMS - The cooperative plan has been criticized with the claim that it caters to intellectually less able students and in that sense is inferior to traditional plans of education. An examination of student grades and scores on academic aptitude tests have demonstrated that this claim is without substance. Haphazard selection for cooperative employment, sometimes results in student job incompatibility. Sometimes students are used for menial and repetitive jobs that do not always capitalize upon their abilities and that do not provide them with the most suitable educational experiences. Fortunately, more attention is being directed toward significant reductions of these problem areas.

One of the greatest handicaps to improvement and expansion of effective technical, and trade and industrial education programs has been the continuing critical shortage of qualified teachers and administrators (3). This problem is further compounded by the fact that there is also a noticeable lack of trade and industrial teacher preparation programs that include adequate provisions for obtaining the necessary industrial experience or depth in any specialized field.

Although cooperative work experience and work-study programs have been expanded and extended, this growth has been slow in becoming an effective element in a significant majority of trade and industrial teacher education programs in this region.

Cooperative education can make a substantial contribution toward meeting these problems. Cooperative education can, without a substantial increase in cost, furnish the most promising hope for appreciably increasing the number of competent technical teachers and for increasing the effectiveness of technical education at all levels.

REVIEW OF SELECTED RESEARCH - Some of the most comprehensive research in cooperative education which has been completed to date was that reported by James W. Wilson and Edward H. Lyons on the Study of Cooperative Education and was sponsored by the Fund for the Advancement of Education (6). This research provides a critical appraisal of the educational merits of cooperative work-study in higher education. The study also provides reinforcing data for the fact that the concept of cooperative education has wide applicability to a variety of specific situations.

The Center for Vocational and Technical Education at the Ohio State University has produced a manual, Guidelines for Cooperative Education (2) for use in the development, expansion, and improvement of many interrelated vocational and technical programs of cooperative education on the high school and post-high school levels.

Cooperative Occupational Education and Work Experience in the Curriculum (3) is the titled of a recent publication by Ralph E. Mason and Peter G. Haines, dealing with cooperative work experience programs on the high school level.

Dr. Roy L. Wooldridge has written a report for the National Commission for Cooperative Education titled, "Analysis of Student Employment in a Cooperative Education Program" (7). This report supports the premise that cooperative education makes it possible for students to obtain, at least two worthwhile objectives which are (a) being able to amplify the learning process through educational experiences that are non-obtainable in the classroom, and (b) being able to finance a part of their education that could not otherwise be completed.

The vocational education act of 1963 provides for funding cooperative work-study programs through federal allotments to the states.

PURPOSE - The central purpose of the cooperative work experience workshop was to plan and execute a brief but comprehensive examination and evaluation of the cooperative work experience plan of education as it pertains to programs in vocational, technical, trade and industrial education. It was believed that such an evaluation would be instrumental in helping to develop "guidelines" for initiating new programs, developing or improving existing programs of cooperative education. The primary emphasis was on providing information about current practices of leading cooperative education programs around the United States.

OBJECTIVES - The specific objectives of the workshop were:

1. To develop an awareness on the part of trade and industrial education teacher educators of the need to develop cooperative work experience situations as deliberate and planned programs geared to utilize maximally the resources of local industry and the educational institution.

2. To develop within the participants the ability to evolve from available resources, methods by which an effective cooperative work experience program may be implemented.

3. To develop on the part of participants the ability to evaluate effectively cooperative work experience programs.

METHOD

PREPLANNING - The workshop proposal received preliminary approval and the project officially began on March 1, 1967. After notification of approval was received, a number of preliminary procedures were started immediately. Project needs in order of immediacy were:

1. Recruitment of participants

2. Selection of participants and alternates

3. Selection of a coordinator-consultant and visiting consultants

4. Procedure for the workshop

RECRUITMENT OF PARTICIPANTS - Primary recruitment of participants was channeled through state directors and supervisors of vocational, technical, trade and industrial education in Regions III, IV, and VII of the United States (HEW Map #112, Rev. 3-57). A letter was prepared and forwarded to the sixteen states, the District of Columbia, and the territories of Puerto Rico and Virgin Islands that are included in the above regions. Each director or supervisor was invited to select two regular and one alternate participants from the fields of vocational-technical or trade and industrial education and submit their names for consideration as workshop nominees. A copy of this letter is included as Appendix A.

Response by state directors and supervisors to our initial request for names of prospective participants was extremely poor. This initial request was followed up by person-to-person telephone calls to each of the state departments of education that had not responded. This second request produced very little improvement in the receipt of additional names of nominees.

An additional letter for participants was then prepared and directed to the presidents, administrators, and department heads in land-grant or private colleges in the selected regions (See Appendix B). A decision had already been made to direct the program announcement to other institutions and regions if the quota of participants could not be filled locally.

A workshop announcement brochure and applications were prepared, mailed to educational institutions and individuals in the local as well as to other regions of the country. Approximately 500 brochures and application forms were distributed. A copy of the brochure and application form are provided as Appendixes C and D respectively.

Mailing lists to provide as adequate coverage of the aforementioned institutions and regions as possible were developed as follows:

1. Obtained current listing of principle state administrators for trade and industrial education in the selected regions.

2. Contacted each person on the above list, briefly explained program and requested names of possible nominees. The form for listing the names of nominees is included as Appendix E.

3. Obtained current listing of persons in the selected regions who are identified as administrators, teacher educators, supervisors, or coordinators in trade and industrial or vocational-technical education in a state department of educational institution.

4. Each person on the mailing list received a brochure or letter of transmittal with application forms encouraging participation.

5. An announcement of the workshop appeared in the April 1967 issue of the American Vocational Journal.

6. Anyone requesting a copy of the workshop announcement was promptly accommodated.

SELECTION OF PARTICIPANTS AND ALTERNATES - As applications were received, they were separated by states. Key questions were devised by the planning committee to determine eligibility. A summary of these questions are included as Appendix F.

In order to be assured of consideration for acceptance, each application had to be postmarked by May 31, 1967. A total of 101 specific requests for applications were received over and above those sent to persons on the mailing lists. After separating and sorting applications according to eligibility, 96 applications were considered and 58 of these were accepted as participants and alternates. The selection procedure involved the following:

1. A committee of three persons consisting of members of the industrial education faculty and the Dean's office, reviewed all applications. Consideration was given to the items listed in the descriptive brochure and those questions devised by the planning committee in making final determinations on eligibility.

2. Applicants from the states represented were rank ordered and the highest ranking persons, with consideration for regional distribution, were selected. Considerable weight was placed on current or intended future involvement with cooperative work experience programs. Recommendations of supervisors of applicants were also given considerable weight.

3. In as much as some balance was sought between those persons most able to profit from the workshop and regional representation, the initial selections were reasonably divided among the areas represented. Eighteen states and the District of Columbia were represented in the initial selection. Approximately one-third of the nominees were trade and industrial teachers actively engaged in cooperative work experience programs. The remaining two-thirds were

vocational-technical or trade and industrial teachers and supervisors working with occupationally-oriented students. Two persons included in the latter group were from state offices of vocational education.

4. Due to changes in plans, health, and illness in the family, 18 nominees declined their acceptance for the workshop. Fifteen alternates were assigned prior to the arrival of participants and three were assigned on the beginning day of the workshop or shortly afterwards. Only one participant failed to complete the entire three-week period; leaving after the first week.

5. Letters were addressed to all nominees informing them of their selection as a participant or alternate. All selected participants were asked to indicate acceptance or rejection of their selection by returning the acceptance and arrival information card enclosed in each letter. The two letters and the acceptance card are included as Appendixes G, H, and I.

6. A follow-up letter requesting an immediate reply, was addressed to participants who were tardy in returning the acceptance card. This letter is shown as Appendix J.

In as much as most of the participants and alternates were selected from the Southeastern region, the final distribution of participants slightly favored Region IV. Table I shows the final distribution of nominees by states. (See Appendix K.)

SELECTION OF COORDINATOR-CONSULTANT AND VISITING CONSULTANTS - Since the primary functions of the workshop were to promote and expand the acceptance and implementation of cooperative work experience by involving the participants in an in-depth examination and exploration of the issues, the selection of consultants was vital to the successful operation of the program.

Initial invitations to the coordinator-consultant and visiting consultants were made by the Dean of the School of Mechanical Industries. The coordinator-consultant and visiting consultants consisted of outstanding professors of industrial education from throughout the United States, leaders from industry, and a State Director of Vocational Education. The names and titles of the coordinator and visiting consultants are shown as Appendix L.

Only one change had to be made in the presentations by consultants. Dr. Frank Jakes of the Ford Motor Company, Dearborn, Michigan

TABLE I

RESULTS OF PARTICIPANT RECRUITMENT

State	Nominees Distributed By State	Nominees Notified of Selection	Non-Participating Selectees	Total Workshop Participants
Alabama	11	11	2	9
Arkansas	1	1	1	0
California	1	1	0	1
Delaware	1	1	0	1
District of Columbia	1	1	0	1
Florida	2	2	1	1
Georgia	2	2	1	1
Illinois	2	2	1	1
Kentucky	1	1	0	1
Louisiana	6	6	2	4
Mississippi	2	2	1	1
Nevada	1	1	1	0
North Carolina	6	6	3	3
Oregon	1	1	0	1
South Carolina	3	3	1	2
Tennessee	3	3	0	3
Texas	3	3	2	1
Utah	1	1	0	1
Virginia	7	7	2	5
West Virginia	1	1	0	1
Wisconsin	2	2	0	2
TOTALS	58	58	18	40

was unexpected granted a leave of absence from the Company and could not be present. However, this open date was very ably filled by Dr. Willard Bateson of Wayne State University who agreed to make two presentations in order to meet this emergency.

PROCEDURE FOR THE WORKSHOP - Each day of the workshop was begun with a presentation by a consultant on one of the selected topics for discussion (See Program - Appendix M). In all instances, the consultant was an authority in some area of vocational-technical or trade and industrial education, and the presentations, therefore, were well coordinated with the activities and discussion of the day.

Usually, a very provocative and lively question and answer or discussion period immediately followed each presentation. This period provided participants with an opportunity to gain greater understanding of the consultant's viewpoints.

During the first week, the afternoon sessions were devoted to organized group discussion and further exploration of the topic under consideration. These discussions were not, necessarily, confined to a specific topic but were attempts to examine all cooperative education issues and problems.

Very good structure for the afternoon sessions was devised and maintained by the coordinator-consultant, who also presented summaries of the group activities for each session.

Group activity during the second and third weeks consisted of Task Force Group participation, reactor panels, and Task Force reports. Six Task Force teams were organized with a chairman for each team and were requested to explore various topics.

All of the discussion topics were concerned with broad as well as in-depth coverage of the subject under consideration. Some topics had been previously assigned and others grew out of the discussions. Examples of some of the discussion topics were: "Bases and procedures for implementing cooperative programs," "Student recruitment and selection," "Information retrieval", "Coordinating functions," "Program evaluation," and many others.

Workshop resource materials and the resources of the Hollis Burke Frissell Library were made available to all teams. Resource persons such as the visiting consultant and the coordinator consultant were also available for direction and information.

Evaluations of each day's activities were completed by the participants (See Appendix N for Daily Evaluation Form).

Participants also completed an overall evaluation and critique at the end of the workshop. Results of these evaluations are included in this report. (See Appendix O).

One field trip was made to Marietta, Georgia (approximately 150 miles distance) to tour the facilities of the Lockheed-Georgia Company and to see cooperative work experience in action. The tour was well organized and effectively conducted by cooperative education officials of the Lockheed-Georgia Company.

Tours were also conducted of the community, campus, and facilities of Tuskegee Institute.

Coffee-breaks with complimentary coffee was provided for participants throughout the entire three-week period. Several recreational outings were also sponsored for workshop participants.

THE FIRST DAY (August 14, 1967) - On the evening prior to the first day, a pre-workshop social "mixer" was sponsored for participants, coordinator-consultant, industrial education faculty, and persons closely associated with the workshop. During this "get acquainted" function, participants were officially registered and given packets of workshop materials.

The first day of the workshop was opened with the Dean of the School of Mechanical Industries, Mr. John A. Welch, presiding. He extended a warm welcome to the participants and then presented Dr. Russell W. Brown, Vice President, Tuskegee Institute, who in the absence of Dr. Luther H. Foster, President, Tuskegee Institute, greeted participants and extended an official welcome to the workshop group. Services of the offices of President and Vice Presidents were offered to participants by Dr. Brown, if needed. Dr. Brown also invited participants to make use of any of the Institute's facilities as well as other official offices in making their stay fruitful and pleasant.

At the conclusion of Dr. Brown's comments, the workshop director, associate director, coordinator-consultant, and members of the industrial education faculty were introduced to the participants. The purposes, objectives, and expected roles of participants were outlined by the workshop director. Dean Welch then presented the speaker for the first session, the Coordinator-Consultant, Dr. Fairchild H. Carter. Dr. Carter addressed the workshop with the topic, "The Cooperative Work Experience Program--A Perspective View." His remarks are included as Appendix P.

RESULTS

EVALUATION OF WORKSHOP BY PARTICIPANTS

Beginning with the second day of the Workshop, each participant was asked to evaluate the proceedings of the day by completing an evaluation sheet (See Appendix N) which was designed to provide "feedback" (information) on the value of each day's activities. An overall evaluation of the first day of the Workshop immediately follows this paragraph. A final evaluation sheet submitted by the participants on the last day of the Workshop presents an overall evaluation and is included as Appendix O.

A portion of the first day of the Workshop was devoted to matters of orientation to the plan of organization to be followed for the three week period, the necessity for conducting the Workshop, and establishing specific outcomes to be sought. The remainder of the day was devoted to a presentation by the Coordinator- Consultant and to general discussion, questions, and answers. This proved to be of a real valuable and an effective beginning since it served to set the stage for the remaining days of the Workshop. Presented were such materials as the history, philosophy, and concepts of Cooperative Work Experience Education. It was during the first day's activities that a common frame of reference was established for all participants by identifying and defining terminology that would be in continuous use throughout the Workshop. The first day's work proved to be most valuable in that it brought together the best thinking from the varied experiences of participants in the formulation of concepts directly related to methodology in Cooperative Work Experience Education. Many of those participants who were experienced or familiar with this type program indicated that they had already developed keen insights into many facets that are inherent in the program. The Coordinator-Consultant was most ably prepared for his role by means of experience, education, and a dynamic personality that was well suited to the group and served to promote a cohesiveness in purposeful work throughout the conference.

The results of the data obtained from the "Daily Evaluation Sheets" (Appendix N) is presented in Table II, "Summary of Participant's Evaluation of Daily Sessions". The tabulations of responses from the daily evaluations were used to make compilations on a weekly basis. During the first week of the Workshop, thirty-seven percent (37%) of the respondents rated the activities for that week as excellent, forty-five percent (45%) rated them as good, fifteen percent (15%) rated them as fair, while only three percent (3%) rated them as poor. The responses for the second week of the Workshop indicated that the values tabulated were: forty-two percent

TABLE II

SUMMARY OF PARTICIPANTS' EVALUATION OF WORKSHOP SESSIONS

First Week

Ratings	Excellent	Good	Fair	Poor
Number of Responses	250	303	97	17
Percent	37%	45%	15%	3%
Second Week				
Number or Responses	478	564	87	2
Percent	42%	49%	8%	1%
Third Week				
Number of Responses	443	371	23	8
Percent	52%	44%	3%	1%

(42%) excellent; forty-nine percent (49%) good; eight percent (8%) fair; and one percent (1%) poor. During the third week of the Workshop, fifty-two percent (52%) of the respondents rated the activities as excellent, forty-four percent (44%) rated them as good, three percent (3%) rated them as fair, and only one percent (1%) rated them as poor.

A summary of selected data obtained from the "Total Workshop Evaluation Sheet" is presented in Table III, "Summary of Total Conference Evaluation Sheet." The rating scale used is a numerical, with one (1) as the lowest rating and seven (7) as the highest rating. The participants were asked to indicate the extent to which they felt the objectives for the Workshop were achieved by placing a check mark in the appropriate column.

In responding to the first objective -- "To what extent did the Workshop develop an awareness on your part of the need for promoting cooperative work experience education?" -- a total of thirty-eight (38) participants gave the following ratings: fifty-eight percent (58%) indicated a rating of seven (7); twenty-nine percent (29%) indicated a rating of six (6), eight percent (8%) indicated ratings of five (5), and only five percent (5%) indicated ratings of four (4). None of the responses were lower than a rating of four.

When asked -- "Did the Workshop develop your ability to evolve, develop, or improve methods for implementing cooperative work experience programs?" -- the participants responded in the following manner: forty-five percent (45%) rated it seven (7), twenty-nine percent (29%) six (6), twenty-one percent (21%) five (5), two and one-half percent (2.5%) rated it four (4), and three (3) with no responses lower.

"Did the Workshop develop your ability to effectively evaluate cooperative work experience programs?" was the last major objective about which the participants were querried. Their responses were: twenty-six percent (26%) rated this as seven (7), forty-seven percent (47%) as six (6), nineteen and one-half percent (19.5%) as five (5), five percent (5%) as four (4), none (0%) as three (3), and two and one-half percent (2.5%) as two (2), with no lower responses.

The participants were asked -- "Have you had previous training and/or experience in cooperative work experience or work-study programs?" -- before the Workshop. Of a total of thirty-eight (38) participant responses, sixteen (16) replied "yes", and twenty-two (22) replied "no". (See Appendix O).

TABLE III

SUMMARY OF TOTAL WORKSHOP EVALUATION SHEET

Evaluation Item*	High 7		6		5		4		3		2		Low 1	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
No. 1	22	58	11	29	3	8	2	5	0	0	0	0	0	0
No. 2	17	45	11	29	8	21	1	2.5	0	0	0	0	0	0
No. 3	10	26	18	47	7	19.5	2	5	0	0	1	2.5	0	0

*Evaluation Items from Total Workshop Evaluation Sheet (Appendix O)

1. To what extent did the Workshop develop an awareness on your part of the need for promoting cooperative work experience situations as deliberate and planned programs geared to make effective use of the resources of education and local industry.

2. To what extent did the Workshop develop your ability to evolve, develop, or improve methods by which an effective cooperative work experience program may be implemented in your educational setting.

3. To what extent did the Workshop develop your ability to effectively evaluate cooperative work experience programs.

The participants were also asked to respond to the question -- "Do you plan any changes in your work experience program as a result of this Workshop?" Participant responses totalled thirty-one (31) and most of those responding to this question also listed some changes likely to be achieved.

Provision was made for the participants to offer comments regarding any and all aspects of the Workshop. A few selected comments are listed below:

1. "The Workshop furnished excellent information for establishing and conducting Cooperative Work Experience programs at the various educational levels."
2. "The consultants as a group were well prepared and experienced for their various presentations."
3. "Information gained from the Workshop will help me to explain and sell the program to the public."
4. "Excellent. Maybe we should have had more fieldtrips."
5. "I now feel confident in being able to establish and operate a program in my school."
6. "The pattern of presentations, discussions, and work groups followed in the Workshop were very good."
7. "I now feel that I can clarify the misconceptions of cooperative work experiences that many others have."
8. "The Workshop was very interesting. I plan to use much of the material that grew out of these experiences."
9. "I feel I have been prepared to try to stimulate interest in establishing a program of Cooperative Work Experiences in my school."
10. "This experience has given me a broader understanding of the Cooperative Work Experience Programs."
11. "Topics and Consultants were well chosen."
12. "This Workshop should become an annual affair and should be conducted in various localities more frequently."

13. "I know of no other means whereby so much valuable information could be gained in so short a span of time. Extremely valuable."

14. "This Workshop was one of the greatest experiences in my educational career. Invaluable."

15. "A very meaningful and informative Workshop."

Evaluation of the Workshop

The daily evaluation sheets served two purposes: (1) to obtain "feedback" from the participants that would be useful in improving the general operations of the Workshop as well as improve the methods or techniques employed, and (2) to obtain reactions to the presentations being made by the consultants. Data for the first week is shown in Table IV. No data were tabulated for the first day, but the third day received the "lowest" ratings in the excellent and good categories, while the fourth day received the "highest" ratings.

Summaries of daily evaluations for the second and third weeks are presented in Tables V and VI respectively.

The day that received the highest rating during the entire Workshop was Wednesday (third day) of the third week. Ninety-nine percent (99%) of the participants indicated that the proceedings for this day were either excellent or good with no responses indicating a rating of fair, and only one percent (1%) rating it as poor. It is possible that these ratings may have reflected a favorable "cumulative effect" from the preceeding days; in addition to the fact that two consultants from industry were used. It is very likely that this contact with individuals from industry gave significant meaning to the previous discussions and presentations which, up to this point, had all been from the point of view of educational personnel.

A possible clue to the pattern of responses given to the three questions used in measuring the achievement of Workshop objectives may be found in the manner in which the fourth question was answered. When participants were asked if they had had previous training and/or experience in cooperative work experience programs, less than one-half (1/2) answered with a response of "yes". This is a strong indication that those who had no prior experience with this type program may have benefited most from the Workshop experiences.

TABLE IV

SUMMARY OF PARTICIPANTS' EVALUATION OF DAILY SESSIONS

First Week

Rating	Monday*		Tuesday		Wednesday		Thursday		Friday	
	No.	%	No.	%	No.	%	No.	%	No.	%
Excellent			41	39	24	12	87	44	100	61
Good			53	50	92	46	104	53	54	53
Fair			8	8	70	35	7	3	9	5
Poor			3	3	14	7	0	0	0	0
TOTALS			105	100	200	100	198	100	163	100

*No evaluations were made for this day.

TABLE V

SUMMARY OF PARTICIPANTS' EVALUATION OF DAILY SESSIONS

Second Week

Rating	Monday		Tuesday		Wednesday		Thursday		Friday	
	No.	%	No.	%	No.	%	No.	%	No.	%
Excellent	76	37	70	37	75	41	147	46	119	47
Good	93	51	103	55	102	55	150	46	116	47
Fair	23	12	15	8	10	4	22	7	17	6
Poor	0	0	0	0	0	0	2	1	0	0
TOTALS	183	100	188	100	185	100	321	100	252	100

TABLE VI

SUMMARY OF PARTICIPANTS' EVALUATION OF DAILY SESSIONS

Third Week

Rating	Monday		Tuesday*		Wednesday		Thursday		Friday**	
	No.	%	No.	%	No.	%	No.	%	No.	%
Excellent	149	50			175	79	119	36		
Good	137	45			43	20	191	58		
Fair	14	4.5			0	0	19	5		
Poor	1	.5			4	1	3	1		
TOTALS	301	100			222	100	332	100		

*A field trip was made on this date.

**Final evaluations were made on this date.

The sample comments of the participants also give some indication of the values they themselves felt were received from their participation.

It is the considered opinion of all those persons who were intimately involved in the operation of the Workshop on Cooperative Work Experience, that the three primary objectives were met to a very high degree, thus justifying the effort and resources that were used in making it possible. It would be of interest to know or be able to measure the long-range effects which will likely result from this Workshop.

Although the workshop started with a full quota of forty participants, one person dropped out after the first week making a total of thirty-nine participants actually completing the three-week period.

An analysis of the participants' evaluation of the workshop indicated that their attitudes towards the workshop sessions improved over the three-week period. Eighty-two percent rated the sessions as "good" or "excellent" the first week; ninety-six percent gave these ratings during the third week. Their evaluation of the three items used in total workshop evaluation ranged from 87 percent for six and seven ratings of item one to 73 percent for item three. These data seem to indicate a reasonably high degree of satisfaction on the part of participants with the quality of workshop activities and with their involvement in these activities.

DISCUSSION

The results of the workshop indicate that its three specific objectives were achieved. There is evidence that an awareness of the need for promoting cooperative work experience situations as deliberate and planned programs was developed. This awareness was brought about primarily through the presentations by the consultants, a visit to a local industry, and Task Force group participation.

No specific evidence can be presented here to show that objectives two and three were fully achieved. However, there is a strong reason to believe that these objectives were achieved on the part of some of the participants.

1. Approximately one-third of those persons in attendance had previous experience in some area of cooperative education. It is reasonable to assume that these persons were able to profit from the workshop activities and, therefore, would be more likely to have had these abilities (objectives two and three) enhanced than those participants with no previous experience.

2. Daily evaluations that were completed by participants focused attention on many of the issues that are important in the operation of actual programs of cooperative education. Specific functions and objectives of the cooperative plan of education were clearly delineated in the presentations by consultants in the discussion and in the Task Force group reports.

3. The informal comments made by consultants and those written by participants on the evaluation sheets suggest that the topics selected for presentations and discussion were well chosen for achieving the stated objectives.

4. Some of the cancellations made by selected nominees and lack of response to the workshop from some states may be attributed to the facts that:

   a. A number of vocational conferences were being sponsored during this period and

b. A number of states were conducting workshops that required the attendance of all vocational-technical personnel.

Evidence from the studies presented (See Review of Selected Research) and from authorities, represented by the consultants, in cooperative and industrial education strongly support these advantages of cooperative work experience programs:

A. To the Students

1. Has the opportunity to apply his classroom knowledge to actual work situations and thereby gain greater interest and appreciation for his classroom work and total academic program.

2. Has an opportunity to gain practical experience in his particular field of interest and exposure to the world of work and real day-to-day problems.

3. Matures more rapidly and develops those personal characteristics that are necessary for a successful career.

4. Associates with other employees of varied backgrounds and disciplines and become familiar with problems of labor and management enabling him to learn the importance of human relations and teamwork in industry.

5. The discipline of his employment helps him to form good work habits and to acquire a feeling of self-reliance and a sense of responsibility.

6. Gains experience which enables him to "land on his feet running when he graduates."

7. Is provided the opportunity to evaluate the company and the field in which he is interested while in school.

B. To the School

1. The process of evaluating students is improved by simultaneous tests of academic fitness and employment suitability.

2. Fuller use of physical plant is permitted by the alternating periods of work and study because many more students can be accommodated when only part of them are in school at one time.

3. The school and industry join forces in the major responsibility of educating students.

C. To the Company

1. Helps assure the company of a regular flow of qualified personnel.

2. The company has an opportunity to observe the students in action and to evaluate performance and potential worth as a permanent employee.

3. Reduces the necessity of further training before job assignment.

4. Helps the company improve its school relations image by having the student as its representative on the campus.

CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

CONCLUSIONS

As a result of this study, the following conclusions have been reached:

1. Vocational-technical industrial teacher educators are vitally interested in implementing or upgrading cooperative plans of education in their curricula.

2. Vocational-technical and industrial teacher educators, coordinators, supervisors, and others who participated in the summer workshop on cooperative work experience programs at Tuskegee Institute were exposed to information about some of the most recent developments in cooperative education.

3. The participants in the workshop, through consultant presentations and Task Force group participation, explored numerous ways of implementing and expanding cooperative work experience in their school educational programs.

IMPLICATIONS

The following implications were derived from the workshop.

1. There is need for intensive inservice and orientation educational programs for coordinators supervisors, and teacher educators in cooperative work experience education.

2. Interest in cooperative work experience programs will be continued and broadened at an unprecedented rate because of the involvement of participants in the cooperative work experience workshop at Tuskegee Institute.

3. The cooperative education method will receive greater attention in any consideration of progressive programs of vocational and technical education.

RECOMMENDATIONS

It is recommended that:

1. Annual workshops or conferences of this nature be scheduled in the Southeastern region in order to allow institutions an opportunity to keep abreast of the latest developments in cooperative education.

2. Joint conferences be held for all areas of industrial, technical, and vocational education. The cooperative plan of education needs the best thinking from all areas of education and industry.

SUMMARY

The primary purpose of this study was to apprize selected vocational-technical teacher educators, coordinators, and supervisors of the most recent developments and to stimulate interest in cooperative education. These factors were accomplished.

The specific objectives were: (1) to develop, on the part of participants, an awareness of the need for promoting cooperative work experience situations as deliberate and planned programs geared to utilize maximally the resources of the educational institutions and local industry; (2) to develop the ability to evolve from available resources methods by which an effective cooperative work experience program may be implemented; and (3) to develop the ability to evaluate, effectively, cooperative work experience programs.

The results indicate that the objectives were achieved. However, available evidence gives stronger support to this contention concerning objective number one than it does for objectives two and three. The latter two objectives require long-range evaluation and, therefore, their achievement would need to be determined at a future time. It is reasonable to assume that when the prior experience in cooperative education of some participants are taken into account, that the latter two objectives were achieved, at least, to some degree.

REFERENCES

1. American Vocational Association. Definitions of Terms in Vocational, Technical and Practical Arts Education. Washington, D. C. pp. 6, 23.

2. Huffman, Harry. Guidelines for Cooperative Education. Columbus, Ohio: The Ohio State University, 1967. 255p.

3. Mason, Ralph E. and Haines, Peter G. Cooperative Occupational Education and Work Experience in the Curriculum. Danville, Illinois: The Interstate Printers and Publishers, Inc., 1965. 525p.

4. United States Department of Health, Education, and Welfare. Administration of Vocational Education - Rules and Regulations. Vocational Education Bulletin Number 1, Revised 1966. 101p.

5. Venn, Grant. Man, Education and Work. Washington, D. C.: American Council on Education, 1964. p. 19.

6. Wilson, James W. and Lyons, Edward H. Work-Study College Programs. New York: Harper and Brothers, 1961. 240p.

7. Wooldridge, Roy L. Analysis of Student Employment in A Cooperative Education Program. Report published by: The Center for Cooperative Education, Northeastern University, September 1966. 66p.

APPENDICES

Tuskegee Institute

TUSKEGEE INSTITUTE
ALABAMA
36088

SCHOOL OF
MECHANICAL INDUSTRIES

Dear Sir:

In cooperation with the Adult and Vocational Research Division of the U. S. Office of Education, Tuskegee Institute will conduct a three-week workshop in organizing and operating cooperative work experience programs in technical and trade and industrial education from August 14 to September 1, 1967. Participants will include directors, supervisors, teacher educators, and other persons engaged in the administration of technical, vocational, and trade and industrial education programs. The general purposes of the workshop are to expand and promote interest in cooperative work experience situations as effective elements in occupational and technical teacher preparation.

The content of the program will be concerned with effective utilization of local resources to implement and/or expand cooperative work experience or work-study programs. These activities will be directed by outstanding authorities in cooperative work experience and trade and industrial education programs.

This letter is being addressed to State Directors and State Supervisors of technical, vocational, and trade and industrial education within the Southern region. As State Officer, you are invited to submit the names of a total of three individuals (two as regulars and one as alternate), who are engaged in occupational or vocational-technical teacher preparation in your state, as nominees for participation in the workshop. Each nominee must be engaged in some aspect of the preservice preparation of teachers or in assisting in-service teachers in any of several phases of technical or vocational education. Nominees are expected to be currently involved in cooperative work experience or work-study programs, or have a strong interest in them.

Applicants may obtain three semester hours of graduate or undergraduate credit if they apply and meet requirements for admission to graduate or undergraduate programs at Tuskegee Institute. Registration for credit is not a prerequisite for participation in the workshop, and no tuition fee will be charged. A certificate will be awarded to each participant upon successful completion of the program.

Applicants will be considered without regard to race, creed, color, or national origin. Each participant will receive a stipend of $75.00 per week for each week of the workshop. In addition, he will receive a travel allowance, not to exceed $75.00, to cover the cost of transportation.

The names of nominees should be submitted by March 31, 1967.

Yours very truly,

John A. Welch
Dean

cc: Mr. J. N. Harris, Director
Workshop on Cooperative Work
Experience Programs

Tuskegee Institute

TUSKEGEE INSTITUTE
ALABAMA
36088

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Dear Sir:

In cooperation with the Adult and Vocational Research Division of the U. S. Office of Education, Tuskegee Institute will conduct a three-week workshop in organizing and operating cooperative work experience programs in technical and trade and industrial education from August 14 to September 1, 1967. Participants will include directors, supervisors, teacher educators, and other persons engaged in the administration of technical, vocational, and trade and industrial education programs. The general purposes of the workshop are to expand and promote interest in cooperative work experience situations as effective elements in occupational and technical teacher preparation.

The content of the program will be concerned with effective utilization of local resources to implement and/or expand cooperative work experience or work-study programs. These activities will be directed by outstanding authorities in cooperative work experience and trade and industrial education programs.

We would appreciate receiving applications from qualified persons at your institution to participate in this workshop. Applicants must be engaged in technical teacher education and in some aspect of preservice preparation or assisting inservice teachers in any of the several areas of technical or trade and industrial education in your state. They are also asked to be currently involved in cooperative work experience or work-study programs or have a strong interest in them. Applicants will be considered without regard to race, creed, color, or national origin.

Each participant will receive a stipend of $75.00 per week for each week of the workshop. In addition, he will receive a travel allowance, not to exceed $75.00 to cover the cost of transportation. No tuition fee will be charged for the workshop.

Applicants may obtain three semester hours of graduate or undergraduate credit if they apply and meet requirements for admission to graduate or undergraduate programs at Tuskegee Institute. Registration for credit is not a prerequisite for participation in the workshop. A certificate will be awarded to each participant upon successful completion of the program.

Applications should be mailed by May 31, 1967.

Yours very truly,

John A. Welch
Dean

Enclosures

cc: Mr. J. N. Harris, Director
Workshop on Cooperative Work
Experience Programs.

* * *

WORKSHOP ON ORGANIZATION AND OPERATION OF COOPERATIVE WORK EXPERIENCE PROGRAMS IN TRADE AND INDUSTRIAL EDUCATION

Purpose . . .

This program will assist in the expansion and/or extension of cooperative education in technical and trade-industrial education curricula. Forty participants consisting of directors, supervisors, and teacher preparation specialists in technical and trade and industrial education programs will spend a three-week period (August 14 to September 1, 1967) at Tuskegee Institute. Participants will: (1) become more informed about the advantages of cooperative work experience programs as they relate to the student, to education, to business and industry and (2) learn techniques for developing and evaluating cooperative work experience as an effective and significant part of occupational and teacher preparation programs.

Objectives . . .

The specific objectives of the workshop will be to (1) develop, on the part of participants, an awareness of the need for promoting cooperative work experience situations as deliberate and planned programs geared to utilize maximally the resources of the educational institution and local industry; (2) to develop the ability to evolve from available resources methods by which an effective cooperative work experience program may be implemented; (3) to develop the ability to evaluate, effectively, cooperative work experience programs.

The Program . . .

The workshop will make use of major presentations by consultants, question and discussion periods, problem sessions, and a limited number of tours to achieve the objectives of the program. The workshop will meet five days each for the full three-week period. Participants should plan to apply themselves totally to the program for the entire period. Topics to be presented and discussed will include the following:

- The Cooperative Work Experience Program — A Perspective View
- Aims and Objectives of Cooperative Work Experience Programs
- What is the Appropriate Educational Level for Offering Cooperative Work Experience Programs?
- Who is to be served by Cooperative Work Experience Programs?
- Advantages of Cooperative Work Experience Programs
    - A. Educational
    - B. To the Student
    - C. To Business and Industry
- Current Developments and Trends in Cooperative Work Experience Programs as related to Trade and Industrial Education
- A Plan for Cooperative Work Experience Programs
- Recommended Practices for Cooperative Work Experience Programs
- Industry's Attitude towards Cooperative Education
- The Role of State Education Departments as related to Cooperative Education

The Staff . . .

The Director of the program will be Mr. James N. Harris, Head, Department of Electronics, Tuskegee Institute, Tuskegee Institute, Alabama. The Associate Director will be Mr. Austell O. Sherard, Assistant Professor, Industrial Education, Tuskegee Institute. Mr. John A. Welch is Dean of the School of Mechanical Industries. The consultants for the workshop will consist of outstanding professors of Industrial Education from throughout the United States, as well as state officials and leaders in industry. Among the consultants will be:

DR. WILLARD M. BATESON, Professor, Department of Industrial Education, Wayne State University, Detroit, Michigan

DR. FAIRCHILD CARTER, Assistant Professor, Vocational Education, Indiana University, Bloomington, Indiana

DR. E. MAX EDDY, Head, Department of Industrial Education, Purdue University, Lafayette, Indiana

MR. W. R. GOLDSTON, Employment Officer, Division of Personnel, TVA, Wilson Dam, Alabama

MR. J. F. INGRAM, State Director, Vocational Education, Montgomery, Alabama

DR. FRANK JAKES, Supervisor, Cooperative Education Programs, Ford Motor Company

DR. JOHN JARVIS, Dean of Instruction, School of Applied Science and Technology, Stout State University, Menomonie, Wisconsin

DR. GEORGE MILLER, Director, Cooperative Education, University of South Florida, Tampa, Florida

DR. W. VINCENT PAYNE, Associate Professor, Industrial Education, Tuskegee Institute

MR. WILLIAM WOLANSKY, Coordinator, Cooperative Work-Study, Wayne State University, Detroit, Michigan

Academic Credit . . .

Three semester hours of academic credit, graduate or undergraduate, may be obtained by participants who apply for and meet requirements for admission to graduate or undergraduate programs at Tuskegee Institute. Appropriate fees must be paid by the applicant. Registration for credit **is not** a pre-requisite for participation in the workshop. No tuition charges will be made by Tuskegee Institute as a condition for participating in the workshop. A certificate will be awarded to each participant upon successful completion of the program.

Eligibility Requirements . . .

Forty participants will be invited to participate. Selections will be made by a committee of three which will consider applications from teacher educators, directors, supervisors, and coordinators of cooperative work experience or work-study programs. A limited number of applications will be considered from persons with a strong interest in cooperative education and who are engaged in some aspect of administering technical or trade and industrial education programs.

Participants will be selected mainly from the southern region (Alabama, Arkansas, Georgia, Florida, Kentucky, Louisiana, Maryland, Mississippi, New Mexico, North Carolina, Oklahoma, South Carolina, Tennessee, Virginia, and West Virginia). However, a few participants will be accepted from outside this region. There will be no limitation on age and participants shall be selected without regard to race, color, creed, or national origin.

Stipends and Allowances . . .

Forty participants will be awarded stipends of $75 for each week of the three-week workshop. There will also be a travel allowance for one round trip fare from the participant's home to Tuskegee Institute, not to exceed $75.

Residence and Housing . . .

Past experience at Tuskegee Institute and information from other institutions give strong evidence that those persons who are resident participants derive more benefit from the program than those persons who commute. Therefore, we strongly urge all participants to live on campus or in the Tuskegee community for the length of the program.

Lodging will be provided in a new complex of dormitories which are well equipped and air conditioned. All rooms are designed for double occupancy. Meals may be taken in the college cafeteria. The cost of meals and lodging for the three-week session will be approximately $80. A few family accommodations may be available in the married students apartments. Participants will be advised of the availability of those accommodations as soon as they receive notice of selection. However, no guarantee can be made concerning the housing of the families of the participants on the campus.

Application Forms . . .

Application forms, together with other information, may be obtained by writing Mr. James N. Harris, Director, Workshop on Cooperative Work Experience Programs, Tuskegee Institute, Tuskegee Institute, Alabama 36088. Applications must be postmarked by May 31, 1967, in order to be assured of consideration. Notification will be sent to those selected by June 15, 1967.

SUMMER WORKSHOP
on
ORGANIZATION AND OPERATION OF COOPERATIVE WORK EXPERIENCE PROGRAMS
in
TRADE AND INDUSTRIAL EDUCATION

August 14 — September 1, 1967

Sponsored By

Tuskegee Institute

In cooperation with the Division of Adult and Vocational Research,
United States Office of Education

Application for Enrollment

WORKSHOP ON ORGANIZATION AND OPERATION OF COOPERATIVE WORK EXPERIENCE PROGRAMS
IN
TRADE AND INDUSTRIAL EDUCATION

August 14 - September 1, 1967

Mail to: Workshop on Cooperative Work Experience Programs
School of Mechanical Industries
Tuskegee Institute
Tuskegee Institute, Alabama 36088

(Please type or print)
Mr. ( )
Name Mrs. ( ) ______________________________
Dr. ( ) last first middle
Miss ( )

Name and address of institution at which you work ______________________________

____
number and street city state zip code phone number

Your Position ____________________ Your Department ____________________

Type of Institution: ( ) 4 yr. college ( ) 2 yr. college ( ) Other ____________

Residential Address ______________________________
number and street city state zip code

Home Phone Number ____________ Area Code ______ Marital Status ________

Date of Birth ____________________ U. S. Citizen: ( ) Yes ( ) No

Check mailing address you wish used: ( ) Institution Address ( )Residential Address

Estimated minimum one-way distance(highway and/or rail) from home to Tuskegee: ____mi.

If I am accepted as a participant, I ( ) do ( ) do not plan to register for
( ) undergraduate or ( ) graduate credit.

Note: To receive credit applicants must apply and meet requirements for admission to undergraduate or graduate programs at Tuskegee Institute. For information regarding credit write to:

Office of Admissions
Tuskegee Institute
Tuskegee Institute, Alabama 36088

Registration for credit is not a pre-requisite for participation in the workshop.

Employment Record: List professional work experience of the past five years. (List in reverse chronological order giving present or last position first. Add separate sheets if necessary).

Dates		Position	Employer	Nature of Activities
From	To			

College or University Education:

Institution	School or Department	Years	Degree	Major Subject	Minor Subject

List the technical, professional and education organizations (local, state, and national) of which you are a member. ______________________________

____

Discuss briefly your plans for professional training and your reasons for wishing to participate in the workshop, sketching briefly the benefits to derive from such participation and their relationships to any special problems you face in your work situation.

DO NOT WRITE BELOW THIS LINE

Application received ____________ Reply: Date __________ Status ________ Recommended ( ) Yes ( )No

Allowances: Stipend ____________ Travel ____________ Approved by ______________

Remarks:

Official List of Nominees
for

WORKSHOP ON ORGANIZATION AND OPERATION OF COOPERATIVE WORK EXPERIENCE PROGRAMS IN TRADE AND INDUSTRIAL EDUCATION

at
Tuskegee Institute

State ______________________ Date ______________________

Regular Nominees
(Please submit two names)

1. Name ____

Address ____

____
City State Zip Code

2. Name ____

Address ____

____
City State Zip Code

Alternate Nominee
(Please submit one name)

Name ____

Address ____

____
City State Zip Code

____
Name of State Official
(Please type and write name)

____
Title

CRITERIA USED IN SELECTING WORKSHOP PARTICIPANTS

Participants should:

1. Be engaged in some aspect of pre-service or in-service preparation of teachers for technical, vocational, or trade and industrial education.
2. Be engaged in administration, direction, or supervision of some area of technical, vocational, or trade and industrial education.
3. Have a strong interest in cooperative work experience programs.

Additional questions that were considered regarding the participants:

1. From what state is the applicant?
2. What is the applicant's present affiliation with cooperative work experience programs?
3. What plans are contemplated for any benefits to be derived from the workshop?

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Tuskegee Institute

TUSKEGEE INSTITUTE
ALABAMA

SCHOOL OF
MECHANICAL INDUSTRIES

Dear Sir:

Your application has been reviewed and we are pleased to confirm your selection as a participant in the Summer Workshop on Organization and Operation of Cooperative Work Experience Programs in Trade and Industrial Education which will be held at Tuskegee Institute from August 14 through September 1, 1967. We are looking forward to your arrival.

Registration will be held on Sunday, August 13, from 3 to 9 P. M. Ladies will register in Residence "G" and men in Residence "F". Participants who are assigned to other on-campus housing may register at that location.

A "mixer" will be held in the lower lounge of Residence "F" on Sunday, August 13, from 8:30 to 9:30 P. M. Meals will be served in Thompkins Cafeteria and may be ordered a la carte.

The cost of room and board for participants will be approximately $80.00, which may be paid in weekly installments of approximately $26.67 each. Information regarding recreational activities will be made available upon your arrival.

All workshop sessions will be held in Willcox Building "A" in the Architectural Division. The first session will begin at 9 A. M. on August 14. The workshop officially ends at 5 P. M. EST on September 1, 1967.

Stipends will be paid weekly and reimbursement for travel will be paid on the last day of the conference.

Please find enclosed a map of the campus and an arrival information form. You are requested to complete the form and return it immediately.

We are looking forward to a very interesting and stimulating workshop.

Sincerely yours,

John A. Welch
Dean

Enclosures

cc: Mr. J. N. Harris, Director

Tuskegee Institute

TUSKEGEE INSTITUTE
ALABAMA
36088

SCHOOL OF
MECHANICAL INDUSTRIES

Dear Sir:

Your application has been reviewed and we are pleased to inform you that you have been selected as an alternate participant in the Summer Workshop on Organization and Operation of Cooperative Work Experience Programs in Trade and Industrial Education which will be held at Tuskegee Institute from August 14, through September 1, 1967.

Your name has been placed on a list of alternate participants by a committee because the quota for your state has already been filled or because the quota has been filled by applicants from the southern region. A few applicants from outside of this region were also selected. All alternate participants have been listed in the order of their selection and their names will automatically be placed on the main participants' list in place of persons who cannot accept their selection.

You have been selected as alternate number ---- and will be notified immediately if vacancies occur on the main list of the forty persons which have already been selected.

We appreciate your interest and look forward to the possibility of your joining us.

Sincerely yours,

John A. Welch
Dean

JAW:ccb

cc: Mr. J. N. Harris, Director

WORKSHOP ON ORGANIZATION AND OPERATION OF COOPERATIVE WORK
EXPERIENCE PROGRAMS - August 14 - September 1, 1967
Arrival Information - Participants

Name ____
(last) (first) (middle)
Address ______________________________________
No. Street City State Zip Code
( )I accept( )I do not accept my selection as a participant
Will arrive at ________ AM PM on ____________________
hour date
I will bring ____________ dependents with me.
no.
( ) I shall arrange for my own accommodations
Please reserve ( )single ( )double accommodations in Residence "F"(male), ( )Residence "G"(Both air cond.) Each room is designed for double occupancy and the charge is $3.50 per night for each occupant.
I prefer ______________________ as a room mate.
name

( ) Please reserve the following accommodations in Dorothy Hall Guest House (not air conditioned)

( )Room with bath - 1 person $7.00
( )Room with bath - 2 persons $10.00
( )Room with bath - 2 persons $13.00

NOTE: These are daily rates

Date ______________________

Signature ______________________

____

Tuskegee Institute

TUSKEGEE INSTITUTE
ALABAMA
36088

SCHOOL OF
MECHANICAL INDUSTRIES

Dear Sir:

Several weeks ago we informed you of your acceptance for the Workshop on Organization and Operation of Cooperative Work Experience Programs in Trade and Industrial Education to be help at Tuskegee Institute from August 14 through September 1, 1967. We have not received the card that you were asked to return indicating your decision and wonder if you are planning to attend the workshop. May we have your immediate reply?

We have a list of names of persons being held on standby status, and would appreciate knowing your decision so that these persons may be informed of any possible openings.

Best wishes.

Sincerely,

John A. Welch
Dean

JAW:cb

Enclosure

cc: James N. Harris

TUSKEGEE INSTITUTE
School of Mechanical Industries

WORKSHOP ON ORGANIZATION AND OPERATION OF COOPERATIVE WORK EXPERIENCE PROGRAMS IN TRADE AND INDUSTRIAL EDUCATION

August 14 - September 1, 1967

Workshop Participants

Alabama

Andres Alba, Coordinator
Trade and Industrial Education
Tuskegee Institute High School
Tuskegee Institute, Alabama 36088

Willie M. Clark
Vocational Education
City Board of Education
Bob Wallace Avenue
Huntsville, Alabama 35801

Edward L. Donald
Teacher-Educator
School of Agriculture
Tuskegee Institute
Tuskegee Institute, Alabama 36088

Oscar L. Downs, Head
Metal Department
School of Mechanical Industries
Tuskegee Institute
Tuskegee Institute, Alabama 36088

Lucius Fleming, Instructor
Industrial Education
Tuskegee Institute
Tuskegee Institute, Alabama 36088

James Littleton, Instructor
School of Mechanical Industries
Tuskegee Institute
Tuskegee Institute, Alabama 36088

Katepalli Sitaramarao, Instructor
Mechanical Engineering
Tuskegee Institute
Tuskegee Institute, Alabama 36088

Dr. John Tzeng, Director
Curriculum Laboratory
Associate Professor
School of Education
Tuskegee Institute
Tuskegee Institute, Alabama 36088

James M. Ward
Asst. Professor
Industrial Education
Alabama A & M College
Normal, Alabama 35762

California

Orville H. Buesing
Teacher-Coordinator, Work
Experience Education
San Jose Unified School District
San Jose High School
275 North 24th Street
San Jose, California 95114

Delaware

George Haney, Teacher
Industrial Arts
Brandywine Springs Jr. High School
2916 Duncan Road
Wilmington, Delaware 19808

District of Columbia

Mrs. Katharyn S. Higgs, Teacher
Cosmetology
Chamberlain Vocational High School
14th & Potomas Avenue, S.E.
Washington, D. C. 20003

Florida

James A. Davis, Consultant
Business and Distributive Education
State Department of Education
Tallahassee, Florida 32304

Georgia

Eugene J. Jackson, Coordinator
Industrial Arts Education
Savannah State College
Savannah, Georgia 31401

Illinois

Seigreied Mueller
Graduate Student
Room 222, Wham Building
Southern Illinois University
Carbondale, Illinois 62903

Kentucky

Dr. Robert L. Ogle, Professor
Industrial Education
Eastern Kentucky University
Richmond, Kentucky 40475

Louisiana

Earl Gray, Supervising Teacher
Southern University, Southern Branch
P. O. Box 9414
Baton Rouge, Louisiana 70813

Nicholas S. Harrison
Teacher-Trainer
Southern University and
A & M College
P. O. Box 9467
Baton Rouge, Louisiana 70813

Marcus V. McWaters
Department Head
Industrial Arts and Technology
Southeastern Louisiana College
Box 847, College Station
Hammond, Louisiana 70401

Clayton A. Wiley
Assistant Professor
Industrial Arts
Grambling College
Grambling, Louisiana 71245

Mississippi

Tyree Henderson
Teacher-Coordinator
Trades and Industrial Education
Lanier Jr., Sr. High School
833 West Maple Street
Jackson, Mississippi 39203

North Carolina

Nathan E. Brown, Instructor
Building Construction
A & T College
312 N. Dudley Street
Greensboro, North Carolina 27411

Major B. Holloway, Instructor
Automotive Technology
A & T College
312 N. Dudley Street
Greensboro, North Carolina 27411

Lewis Richards, Instructor
Building Construction
A & T College
312 N. Dudley Street
Greensboro, North Carolina 27411

Oregon

Francis M. Rogers, Coordinator
Work Experience Program
Scappoose High School
P. O. Box 490
Scappoose, Oregon 97056

South Carolina

Warnell Berry, Teacher
Carpentry & Voc. Dept. Head
Howard High School
Kaminshi Street
Georgetown, South Carolina 29440

Jimmie Stewart, Teacher
Industrial Arts
Alston High School
Box 610, Bryan Street
Summerville, South Carolina 29483

Tennessee

William B. Harper, Head
Industrial Education Department
Tennessee A & I State University
Nashville, Tennessee 37203

Preston Stewart, Assoc. Professor
Industrial Education
Tennessee A & I State University
Nashville, Tennessee 37203

James W. Wynn
Project Development Supervisor
State Department of Education, MDT
202 W. Main Street
Knoxville, Tennessee 37209

Texas

Andrew Matthew, Department Head
Electricity Department
Prairie View A & M College
Prairie View, Texas

Utah

Delyle B. Jensen, Teacher
Industrial Arts
Ogden High School
2828 Harrison
Ogden, Utah 84401

Virginia

Frank T. Green, Assoc. Professor
Industrial Education
Virginia State College
Petersburg, Virginia

Wilbert P. Harris, Coordinator
Work Program
George Washington High School
1005 Mt. Vernon Avenue
Alexandria, Virginia 22301

Morton B. Hopkins, Department Head
Automotive Mechanics
Norfolk Division
Virginia State College
2401 Corprew Avenue
Norfolk, Virginia 23504

Bernard L. Jones, Asst. Professor
Vocational - Industrial Education
Virginia State College
Petersburg, Virginia 23804

Herbert K. Shannon
I.C.T. Teacher and Coordinator,
Vocational Education
George Washington Carver High
Broad Street
Chesapeake, Virginia 23506

West Virginia

Edward G. Watkins
Asst. Prof. Engineering Technology
Bluefield State College
Bluefield, West Virginia

Wisconsin

Melvin A. DeSwarte, Senior Instructor
and Work Study Supervisor,
Electronics
Two Rivers Vocational, Technical
and Adult School
1715 E. Park Street
Two Rivers, Wisconsin 54241

Eddie Walker, Instructor
Electrical
Milwaukee Vocational School
1015 N. 6th Street
Milwaukee, Wisconsin 53202

WORKSHOP CONSULTANTS

Dr. Fairchild H. Carter
Coordinator-Consultant
Assistant Professor
Vocational Education
Indiana University
223 South Jordan
Bloomington, Indiana 47401

Dr. Willard M. Bateson
Professor, Department of Industrial Education
College of Education, 2N
Wayne State University
Detroit, Michigan 48202

Dr. E. Max Eddy
Professor and Head
Department of Industrial Education
School of Technology
Purdue University
Lafayette, Indiana 47907

Mr. W. R. Goldston
Employment Officer
Employment Branch
Tennessee Valley Authority
Muscle Shoals, Alabama 35661

Mr. J. F. Ingram, Director
Vocational Education
State Department of Education
Montgomery, Alabama 36104

Dr. Frank Jakes
College Cooperative Program Manager
Ford Motor Company
The American Road
Dearborn, Michigan 48127

Dr. John A. Jarvis
Vice President for Academic Affairs
Stout State University
Monomonie, Wisconsin 54751

Mr. George H. Miller, Director
Cooperative Education Program
University of South Florida
Tampa, Florida 33620

Dr. W. Vincent Payne, Director
Research, Experimentation and Demonstration Project
School of Mechanical Industries
Tuskegee Institute
Tuskegee Institute, Alabama 36088

Mr. F. W. Ragan, Jr.
Technical Employment Supervisor
Western Electric Company, Inc.
3300 Lexington Road, S. E.
Winston Salem, North Carolina

Mr. Frank Vandegrift, Director
Cooperative Education
Engineering Extension Service
Auburn University
Auburn, Alabama 36830

Mr. William W. Wolansky
Coordinator
Cooperative Work-Study
Department of Industrial Education
College of Education, 2N
Wayne State University
Detroit, Michigan 48202

WORKSHOP ON ORGANIZATION AND OPERATION OF COOPERATIVE WORK EXPERIENCE PROGRAMS IN TRADE AND INDUSTRIAL EDUCATION

At

TUSKEGEE INSTITUTE

School of Mechanical Industries

Willcox "A" Building

August 14 - September 1, 1967

Conducted By

TUSKEGEE INSTITUTE

In Cooperation With

The Bureau of Research, Adult and

Vocational Research Division

United States Office of Education

Specific Objectives

1. To develop, on the part of participants, an awareness of the need for promoting cooperative work experience situations as deliberate and planned programs geared to utilize maximally the resources of the educational institution and local industry.

2. To develop the ability to evolve from available resources methods by which an effective cooperative work experience program may be implemented.

3. To develop the ability to evaluate, effectively, cooperative work experience programs.

Participants

The participants are selected teacher educators, coordinators, and administrators in technical, vocational, and trade and industrial education in schools, colleges, and universities in the States of Alabama, California, Delaware, District of Columbia, Florida, Georgia, Illinois, Kentucky, Louisiana, Mississippi, North Carolina, Oregon, South Carolina, Tennessee, Texas, Utah, Virginia, and Wisconsin.

Workshop Director

James N. Harris

Associate Director

Austell O. Sherard

Dean, School of Mechanical Industries

John A. Welch

Resources Committee

W. W. Bearden
R. K. Jones
W. L. Lassiter
B. D. Mayberry
G. A. Reed
W. V. Payne
G. R. Trammell
J. A. Welch

PROGRAM

Monday, August 14, 1967

Willcox "A" Building
Division of Architecture
Second Floor

First General Session

Chairman - J. A. Welch, Dean, School of Mechanical Industries, Tuskegee Institute

A. M.

9:00 Opening of the Workshop

Greetings . . . . Dr. Russell W. Brown, Vice President, Tuskegee Institute

Introductions

Orientation of the Workshop. . . . . J. N. Harris Director of Workshop

Presentation . . . . Dr. Fairchild Carter Assistant Professor, Vocational Education, Indiana University

"The Cooperative Work Experience Program - A Perspective View"

10:30 Coffee Break

10:45 Discussion - Question and Answer Period

12:00 Lunch. . . . . .Tompkins Hall

Second General Session

Chairman - Dr. Fairchild Carter, Coordinator-Consultant

P. M.

1:30 Group Seminars "The Cooperative Work Experience Program"

Groups	Location
Group I	Classroom
Group II	Office No. 1
Group III	Architectural Library
Group IV	Studio
Group V	Office No. 2

3:00 Coffee Break

P. M.
3:15 Group Reports

4:00 Campus Tour

5:00 Dinner. . . . . Tompkins Hall

Tuesday, August 15, 1967
Willcox "A" Building
Division of Architecture
Second Floor

Third General Session

Chairman - Dr. W. W. Bearden, Head, Division of Industrial Education, Tuskegee Institute

A. M.
8:30 "Aims and Objectives of Cooperative Education" — Frank Vandegrift, Director
Cooperative Education
Engineering Extension Service
Auburn University

10:30 Coffee Break

10:45 Discussion - Question and Answer Period

12:00 Lunch . . . . Tompkins Hall

Fourth General Session

Chairman - Dr. Fairchild Carter, Coordinator-Consultant

P. M.
1:30 Group Seminars - "Aims and Objectives"

Groups	Location
Group I	Classroom
Group II	Office No. 1
Group III	Architectural Library
Group IV	Studio
Group V	Office No. 2

3:00 Coffee Break

3:15 Seminar Reports

4:15 Group Photograph

5:00 Dinner. Tompkins Hall

Wednesday, August 16, 1967

Willcox "A" Building
Division of Architecture
Second Floor

Fifth General Session

Chairman - Dr. Fairchild Carter, Coordinator-Consultant

A. M.

8:30 "The Disadvantaged and Implications for Cooperative Education" . . . Dr. W. Vincent Payne, Director Research, Experimentation and Demonstration Project Tuskegee Institute

10:30 Coffee Break

10:45 Discussion - Question and Answer Period

12:00 Lunch. . . . . Tompkins Hall

Sixth General Session

Chairman - Dr. Fairchild Carter, Coordinator-Consultant

P. M.

1:30 Group Seminars - "The Disadvantaged and Implications"

Groups	Location
Group I	Classroom
Group II	Office No. 1
Group III	Architectural Library
Group IV	Studio
Group V	Office No. 2

3:00 Coffee Break

3:15 Seminar Reports

5:00 Dinner. Tompkins Hall

Thursday, August 17, 1967

Willcox "A" Building
Division of Architecture
Second Floor

Seventh General Session

Chairman - Dr. W. Vincent Payne, Director, OMPER Project

A. M.

8:30 "What is the Appropriate Educational Level for Offering Cooperative Work Experience Programs? . . . . Dr. Fairchild Carter, Coordinator - Consultant

10:30 Coffee Break

10:45 Discussion - Question and Answer Period

12:00 Lunch. . . . . Tompkins Hall

Eighth General Session

Chairman - Dr. Fairchild Carter, Coordinator - Consultant

P. M.

1:30 Group Seminars

Groups	Location
Group I	Classroom
Group II	Office No. 1
Group III	Architectural Library
Group IV	Studio
Group V	Office No. 2

3:00 Coffee Break

3:15 Seminar Reports

5:00 Dinner . . . . Tompkins Hall

Friday, August 18, 1967

Willcox "A" Building
Division of Architecture
Second Floor

Ninth General Session

Chairman - J. N. Harris, Workshop Director

A. M.

8:30 "Who is to be Served by Cooperative Work Experience Programs?" . . . . . W. W. Wolansky, Coordinator
Cooperative Work Study
Wayne State University

10:30 Coffee Break

10:45 Discussion - Question and Answer Period

12:00 Lunch. . . . . Tompkins Hall

Tenth General Session

Chairman - Dr. Fairchild Carter, Coordinator - Consultant

P. M.

1:30 Group Seminars

Groups	Location
Group I	Classroom
Group II	Office No. 1
Group III	Architectural Library
Group IV	Studio
Group V	Office No. 2

3:00 Coffee Break

3:15 Seminar Reports

5:00 Dinner. . . . . .Tompkins Hall

PROGRAM

Monday, August 21, 1967

Willcox "A" Building
Division of Architecture
Second Floor

Eleventh General Session

Chairman - J. A. Welch, Dean, School of Mechanical Industries, Tuskegee Institute

A. M.

8:30	"Advantages of Cooperative. . . . Work Experience Programs: (a) Educational; (b) To the Student; (c) To Business and Industry"	Dr. John A. Jarvis, Vice President for Academic Affairs Stout State University
10:30	Coffee Break	
10:45	Discussion - Question and Answer Period	
12:00	Lunch	Tompkins Hall

Twelfth General Session

Chairman - Dr. Fairchild Carter, Coordinator - Consultant

P. M.

1:30	Task Force Group Sessions	
3:00	Coffee Break	
3:15	Task Force Reports	
5:00	Dinner.	Tompkins Hall
6:30	Task Force Group Study (Unrestricted)	

Tuesday, August 22, 1967

Willcox "A" Building
Division of Architecture
Second Floor

Thirteenth General Session

Chairman - Dr. Fairchild Carter, Coordinator - Consultant

A. M.

8:30	"Ingredients of a Model Program of Cooperative Education"	Dr. Willard Bateson, Professor Industrial Education Wayne State University
10:30	Coffee Break	
10:45	Discussion - Question and Answer Period	
12:00	Lunch	Tompkins Hall

Fourteenth General Session

Chairman - Dr. Fairchild Carter, Coordinator - Consultant

P. M.

1:30	Task Force Group Sessions	
3:00	Coffee Break	
3:15	Task Force Reports	
5:00	Dinner	Tompkins Hall
6:30	Task Force Group Study (Unrestricted)	

Wednesday, August 23, 1967

Willcox "A" Building
Division of Architecture
Second Floor

Fifteenth General Session

Chairman - A. O. Sherard, Associate Director

A. M.

8:30	"Guidelines for the . . . . Cooperative Work Experience Program"	Dr. Willard Bateson, Professor Industrial Education Wayne State University
10:30	Coffee Break	
10:45	Discussion - Question and Answer Period	
12:00	Lunch.	Tompkins Hall

Sixteenth General Session

Chairman - Dr. Fairchild Carter, Coordinator - Consultant

P. M.

1:30	Task Force Group Sessions	
3:00	Coffee Break	
3:15	Task Force Reports	
5:00	Dinner.	Tompkins Hall
6:30	Task Force Group Study (Unrestricted)	

Thursday, August 24, 1967

Willcox "A" Building
Division of Architecture
Second Floor

Seventeenth General Session

Chairman - J. N. Harris, Director

A. M.

8:30 "Organization and Administration of Cooperative Work Experience Programs" . . . . George H. Miller, Director
Cooperative Education
University of South Florida

10:30 Coffee Break

10:45 Discussion - Question and Answer Period

12:00 Lunch. . . . . Tompkins Hall

Eighteenth General Session

Chairman - Dr. Fairchild Carter, Coordinator - Consultant

P. M.

1:30 Task Force Group Sessions

3:00 Coffee Break

3:15 Task Force Reports

5:00 Dinner. . . . . Tompkins Hall

6:30 Task Force Group Study (Unrestricted)

Friday, August 25, 1967

Willcox "A" Building
Division of Architecture
Second Floor

Nineteenth General Session

Chairman - A. O. Sherard, Associate Director

A. M.

8:30	"Recommended Practices for Cooperative Work Experience Programs"	George H. Miller, Director Cooperative Education University of South Florida
10:30	Coffee Break	
10:45	Discussion - Question and Answer Period	
12:00	Lunch	Tompkins Hall

Twentieth General Session

Chairman - Dr. Fairchild Carter, Coordinator - Consultant

P. M.

1:30	Task Force Group Sessions	
3:00	Coffee Break	
3:15	Task Force Reports	
5:00	Dinner	Tompkins Hall

PROGRAM

Monday, August 28, 1967

Willcox "A" Building
Division of Architecture
Second Floor

Twenty-First Session

Chairman - Dr. Fairchild Carter, Coordinator - Consultant

A. M.

8:30	"Current Development and Trends in Cooperative Work Experience Programs as Related to Trade and Industrial Education"	Dr. E. Max Eddy, Professor and Head, Department of Industrial Education School of Technology Purdue University
10:30	Coffee Break	
10:45	Discussion - Question and Answer Period	
12:00	Lunch	Tompkins Hall

Twenty-Second Session

P. M.

1:30	Task Force Group Sessions	
3:00	Coffee Break	
3:15	Task Force Reports	
5:00	Dinner	Tompkins Hall
6:30	Task Force Group Study (Unrestricted)	

Tuesday, August 29, 1967

Willcox "A" Building
Division of Architecture
Second Floor

Twenty-Third and Twenty-Fourth Sessions

Chairman - J. N. Harris, Workshop Director

A. M.

7:30 CDST Field Trip. . . . . Tour of Lockheed Georgia Company facilities

Host: Mr. Thomas B. Woodward
Coordinator Cooperative Education

P.M.

12:30 EDST Arrival at Gate 4 . . . . . . Lockheed-Georgia Company
Marietta, Georgia

1:00 Dutch Lunch . . . . .Company Cafeteria

1:45 Tour begins

3:45 Tour ends

4:00 Departure

Wednesday, August 30, 1967

Willcox "A" Building
Division of Architecture
Second Floor

Twenty-Fifth Session

Chairman - J. N. Harris, Workshop Director

A. M.

8:30 "Industry's Attitude Towards Cooperative Education . . . . W. R. Goldston
Employment Officer
Employment Branch
Tennessee Valley Authority

F. W. Ragan, Jr.
Technical Employment Supervisor
Western Electric Company

10:30 Coffee Break

10:45 Discussion - Question and Answer Period

12:00 Lunch . . . . .Tompkins Hall

Twenty-Sixth Session

Chairman - Dr. Fairchild Carter, Coordinator - Consultant

P. M.

1:30 Task Force Group Sessions and Reports

2:45 Coffee Break

3:00 Tour of Educational and Research Facilities

5:00 Dinner . . . . .Tompkins Hall

Thursday, August 31, 1967

Willcox "A" Building
Division of Architecture
Second Floor

Twenty-Seventh Session

Chairman - A. O. Sherard, Associate Director

A. M.

8:30 "The Role of State Education Departments as Related to Cooperative Education" . . . . J. F. Ingram, Director
Vocational Education
Alabama State Department of Education

10:30 Coffee Break

10:45 Discussion - Question and Answer Period

12:00 Lunch. . . . . Tompkins Hall

Twenty-Eight Session

P. M.

1:30 Task Force Group Sessions

3:00 Coffee Break

3:15 Task Force Reports

5:00 Dinner . . . . Tompkins Hall

6:30 Task Force Group Study (Unrestricted)

Friday, September 1, 1967

Willcox "A" Building
Division of Architecture
Second Floor

Twenty-Ninth Session

Chairman - Dr. Fairchild Carter, Coordinator - Consultant

A. M.

8:30 1. Task Force Reports

2. Summaries of the Workshop

3. Conclusions and Implications for Cooperative Education Programs

4. Recommendations

10:30 Coffee Break

10:45 Statistical Analysis of the Workshop

12:00 Lunch . . . . .Tompkins Hall

Thirtieth Session

Chairman - Dr. Farichild Carter, Coordinator - Consultant

P. M.

1:30 Concluding Task Force Reports

3:00 Coffee Break

5:00 Dinner . . . . .Tompkins Hall

Workshop Planning Committee

Dr. W. W. Bearden, Associate Professor and Head, Division of Industrial Education, Tuskegee Institute

James N. Harris, Assistant Professor and Head, Department of Electronics, Tuskegee Institute

Dr. W. V. Payne, Associate Professor and Director OMPER Project, Tuskegee Institute

Austell O. Sherard, Assistant Professor and Head, Automotive Mechanics Department, Tuskegee Institute

Dean J. A. Welch, School of Mechanical Industries, Tuskegee Institute

DAILY EVALUATION SHEET

Workshop on Organization and Operation of Cooperative
Work Experience Programs in Trade and Industrial Education

Session Number ______________ Date ______________________________

Please assist us with the evaluation of this Workshop by providing "feedback" on the value of each day's activities.

Please check your response in the appropriate column.

	Excellent	Good	Fair	Poor
I. Main Presentation by Consultant(s)				
II. Appropriateness of Topic				
III. Discussion or Question and Answer Period				
IV. Task Force Discussion				
V. Appropriateness of Topic				
VI. Task Force Reports				

Remarks:

Please do not sign your name. Hand evaluation sheet to the Coordinator, Director, or Associate Director.

N

TOTAL WORKSHOP EVALUATION SHEET

Workshop on Organization and Operation of Cooperative Work Experience Programs in Trade and Industrial Education

Please assist us with the evaluation of the Workshop by checking your response in the appropriate column.

	High						Low
	7	6	5	4	3	2	1
1. To what extent, did the Workshop develop an awareness on your part of the need for promoting cooperative work experience situations as deliberate and planned programs geared to make effective use of the resources of education and local industry.							
2. To what extent, did the Workshop develop your ability to evolve, develop, or improve methods by which an effective cooperative work experience program may be implemented in your educational setting.							
3. To what extent, did the Workshop develop your ability to effectively evaluate cooperative work experience programs.							

4. Have you had previous training and/or experience in cooperative work experience or work-study programs?

( ) Yes ( ) No

5. Do you contemplate any changes being brought about in your work experience or work study program as a result of this workshop?

( ) Yes ( ) No

6. Give examples of these changes:

a.

b.

c.

Comments:

Please do not sign your name. Hand this evaluation sheet to the Coordinator, Director, or Associate Director

PRESENTATIONS MADE BY CONSULTANTS

"THE COOPERATIVE WORK EXPERIENCE PROGRAM - A PERSPECTIVE VIEW"

Dr. Fairchild Carter

I want to identify my task for you. Coordinator Consultant -- this is my descriptive title as you see it in the program. Coordination means to put into a harmonious relationship, and that I hope we can do. I hope that when we leave here that each of you will have about 40 new friends. I hope that this organization will grow in harmonious relationship so that each of us may have the benefit of an exchange of ideas. A consultant is one to whom you bring your problems so he can refer them to someone else for solutions.

I hope that we can work out meaningful experiences in this workshop. I am sure that I have some prejudices - as each of you do - that will probably be reflected in my personal philosophy. I will be in front of you frequently and I hope that I wear well. There is plenty of me to wear away, but I hope that I wear well with you on an intellectual, psychological, educational, and personal bases.

I have a friend who says "I have seen a lot of changes come over the years and I have been against every one of them." If some of you have that attitude, it may preclude the possibility that we can get as many valuable contributions from them as they might have to offer. I am sincerely interested in finding out whom you are in terms of what you represent. So please raise your hands if you fit these categories. How many of you have operated a cooperative work experience program on any level and any discipline? How many of you have had no exposure whatever, to cooperative education? How many are trade and industrial teachers? How many industrial arts teachers? How many are in health occupations? Office occupations? Distributive education? We have one cosmetologist present. Is cosmotology identified as part of your school's industrial program? How many are in agriculture? Now, how many operate at the post-high school level? Of those in the post-high school level, how many are in the technical program? How many in teacher education?

I think this gives you some idea of the kind of scope in programs we have in the participation in this conference. Rather than limit the program, this should expand it. Each has a unique kind of contribution to make and the most valuable thing you have brought to this program is the uniqueness of yourselves. To the extent that you communicate with everyone else, you have an opportunity to take an idea home and you should be able to provide some ideas which may be useful for someone else. This, then should assist you in being a better teacher or assist other persons in becoming better teachers. Our prime concern should be the people we intend to serve. The man who has not served has not made a contribution in his lifetime.

With this type of diversification, I want to ask you three or four more questions. How many have had exposure to Prosser's Principles? How many know what Prosser's Principles are? How many have used Bulletin No. 1 from the U.S. Office of Education? How many do not know what Bulletin No. 1 is? We are not going to spend a large amount of time on it this morning. We are going to take a look at cooperative education. However, you should know that Bulletin No. 1 is the guide to vocational education. First, Congress writes the legislation. We are not going to deal with legislation, but we should know the laws that are in effect.

We started vocational education in the colleges and we are moving on toward the post-secondary. As we moved in the last hundred years from an agrarian to an industrial society, to the service of society and then to the space age we have evidence of all these various levels of education and the contributions they have made to society. The current effective legislation includes the Smith-Hughes Act of 1917. Its provisions were expanded in the George-Reed, George-Ellzey, George-Deen and George-Barden Acts, and in the National Defense Education Act of 1958. The Area Redevelopment Act in 1961 and the Manpower Development and Training Act of 1962 were merged. The Perkins Act, or the Vocational Education Act of 1963, or 88-210, or whatever you wish to call it, was the outgrowth of the Study of the Panel of Consultants appointed by President Kennedy. These are the vocational education laws which we will, in general, be concerned with.

After Congress has written the law, Federal attorneys put in this book -- Bulletin No. 1 -- a digest of what Congress intend is included in Bulletin No. 1. Each state uses this digest as a guide, along with other directions, and develops a State Plan. A State Plan is a legal contract between the U.S. Office of Education and the State Boards for vocational education and it describes what the State intends to do and the basic umbrella under which the state will operate the vocational education program. This is the item which insulates the schools from Federal control. Once the intent has been stipulated and it has been approved as a contract between the U.S. Office of Education and the State Board for vocational education it becomes policy.

In a general sort of way, I think that we do a pretty fine job in the public schools in spite of the things which deter us. I am public school oriented and public institution oriented, but these programs may also be developed in private institutions.

We probably should identify the relationship of general education to vocational education. We have no quarrel with general education. I do not believe we can have significant vocational education without good general education. Vocational education is an adjunct to general education. If you do not have this philosophy, I hope you will examine it during this conference and adopt it if feasible. The real determinant as to whether education is vocational or not is the objective of the learner. A student in industrial arts class can conceivably learn a skill more adequately than a youngster who uses the same skill in actual production. This ideal can be extended into other practical arts areas. The students who take typing for a year may out-perform a youngster who took it for two years in a vocational area. So, when we talk about vocational education, the thing that makes it vocational is the objective of the learner.

I want to identify other points of departure. I believe that education which is said to be identical is not necessarily equal as far as the students who receive it are concerned. I also think that giving students identical curricula, if we really believe in individual differences, is not giving then equal opportunity. I think that we will compare some curricula as we go along -- that of the high school with that of the post-high program. If you say, "I believe in education for everyone from the point where he is to the point where we can take him," then we are on a common ground. Your vocational objective is to make it possible for that youngster to perform the best of his abilities. This is the heart of vocational education. There are differences in programs and it is our wish that this conference challenges your present practices objectively.

Vocationality does not necessarily mean reimbursability. There has been a lot of good vocational education which has not been reimbursed, and programs of very low quality which have been funded. Let me paraphrase a topic from THE AFFLUENT SOCIETY, by Galbraith. He said, we generally set great store by intellectual innovation, but in fact we resist it. We value the adherence to conventional ideas because there we are safe. We have security in our convention. Each of us is so highly security-conscious we object to innovation in spite of the fact that we pay great lip service to it. We all came down here to be great innovators, but the first thing you are going to say after today's program is that you have been doing these things for years and have been doing them successfully so why change. Do not let your potential for innovation be defeated this week by your own inherent conservatism. I have the same kind of predisposition to retain the known. I am not preaching a sermon, but simple recognizing a problem. Each of us, I hope, has an educational need to fill. None of us is teaching as well as we know how to right now.

I am assuming that everyone knows what cooperative education is. Believe me, if you do not know now, you will know at the end of these three weeks. Assuming that you know what cooperative education is, then, we will take a look at what some of its positive points are. I think that this is an all-inclusive list, but it does give some idea of why we apply the method. I am certain that as we move along this list we will be expanded and modified. Those of you with experience in cooperative education will recognize these items and will be able to make some real contributions and present other valuable items.

The basic part of this presentation was prepared by the participants at a national conference for cooperative education held at the National Center for Vocational and Technical Education at the Ohio State University. Some of the values of cooperative education are quite obvious to all of us. I do not believe that a student should be guided into a cooperative situation where his prime motivation is the care and feeding of an automobile. We need to operate programs which are educationally defensible even though income is important. It assists in demonstrating many of the economic facts of life, it enables some students to stay in school, and it does make a significant contribution to living. The job provides actual work experience and I believe that between job experience and applied knowledge, we arrive at what probably is the most significant contribution to the education of the participant.

I may have some trouble with conventional vocational trade and industrial education people for what I am going to say but the total industrial education program which includes industrial arts, should tolerate this statement. The most significant educational experience that a student might have, preferably early in the experience, would be to determine that a particular occupation in which he was engaged was not suited to his abilities. This may move us away from the principle of vocational education that says it is a vocational experience when the pupil needs, wants, and can profit from the instruction. We have said on one hand that the student needs, wants, and can profit from the experience and then he decides that this is not true. Use yourself as a case in point. How many people do you find doing what they intended to do when they were 16 years old? Occasionally you may find someone who says yes. Usually people admit they have changed goals several times in some instances. The fact that a student has been employed in a coop station and the situation did not work out particularly well, may have assisted him in making important decisions about the occupation he had selected -- at least, tentatively.

In cooperative education we do not have a very fine record of people moving into regular employment; quite often with the firm which provided employment during the training experience. Those of you who are concerned with vocational education know that this is a very significant and important fact. In 1968, all vocational programs in the Nation are going to be evaluated by the U.S. Office of Education for a report to Congress. Further federal support for vocational education will be based on this report whether we like it or not. Federal support is important to education, not so much as in the direct support of the program as it is in initiation of expanded programs because of the multiplier effect -- of about five or six dollare to one.

Technology in the entire field of work experience, work and study, coops, and work-study is difficult to standardize because these terms mean so many different things to different people. Work is just exactly what it says. It is not a magic phrase, but there is a kind of magic in work. For one thing, just the fact that someone works successfully for the first time is an achievement for him. He has made an economic contribution to society, and this is important. It is important to give a student an opportunity to work. It is more significant to give them directed experiences, but work experience per se, I think, makes an important contribution to an individual's total social development. Work-study does not mean what it once meant. We have used the work-study terminology to identify what is now referred to as work and study. Cooperative education programs were once known as work-study programs because it was work related directly to study. Work-study, under the new Federal legislation, is incorporated in the 1963 Act and means a subsidizing program that enables youngsters to work and use their salaries to cover expenses while they remain in school. Such students may be placed in a productive situation where he performs a useful service but does not displace anyone from the labor market. He may be employed in a public library, the school bookstore or in some similar job. Work-study provides a subsidized program of work enabling the student to stay in school. The work component may or may not have any direct relationship to the student' s subjects of study. For those who recall the NYA programs, the function is very similar.

Work and study is a program where there is work and study in a relationship to each other, and at its highest level, is in cooperative education. This is what we are going to talk about, examine, and study in order that we may emerge with some significant learning which we can apply. The coordinator-consultant's job will be to keep this series of meetings in a harmonious relationship and hopefully to provoke an interchange of ideas and communication that will develop the kind of reports and reactions which will provide information for your students.

This is an illuatration of the Cone Experiences prepared by Edgar Dale at Ohio State University which demonstrates visually a set of activities moving from a base of concrete experiences to a peak of abstract conceptions and demonstrates the different kinds of activities in which one can engage for learning experience. At the top of the cone are the activities of reading and hearing. At the bottom are activities which involve more and more of those which are both cognitive and manipulative. Unless the communicator and the listener are both operating from the same frame of reference, written or oral communication may not convey the impressions which were intended. We can dsicuss job information, but that would not be very meaningful. Vocational films will convey some additional meaning. Visiting business and industrial exhibits and displays will provide additional meaning. At the level of actually operating or applying the cognitive abilities to manipulative activity, learning is reinforced through application. The most realistic way to do this is to give students instructions and move them into direct and purposeful on-the-job experiences.

In vocational education, continued employability of the learner on the long term basis in the occupation for which trained is the criterian of success. Vocational education is not a replacement for general education. It is a valuable adjunct to it because it provides application. Interrelationships exist within the various vocational and technical disciplines and in coordination you will need to coordinate both horizontally and vertically as we work in areas of curriculum development. Each is going to have to function cooperatively with the other disciplines, providing the best experiences for the students from all the areas involved. The traditional vocational programs have served the middle segment of the population quite well, but have made less than ample provision for students at the more extreme points along the distribution curve. When society does not cope with its problems, we have legislation attempting to remedy the deficiency. When vocational education did not provide for all of its potential audiences, legislation was written to develop programs to serve them. We perform a significant education service and we serve a good audience. There are high school audiences, post-high school audiences, and adult audiences. However, there is a fourth audience to which some attention should be given. It is the audience of the disadvantaged. These are the youth and adults we have failed to serve.

The coop method is not magic. It is a good method of education and its value can be demonstrated by the cone of experiences. You can teach by lectures, machines, filmstrips, correspondences, or by combinations of methods. The coop is a significant and important method and we are going to find out all we can about it. As you serve these audiences with these disciplines, use the coop method where it is appropriate. You can, for instance, take a youngster from a day-trade shop and place him in the industrial coop. You can take a youngster from general education and put him into an industrial coop or some other discipline using the coop method. You can take him into the post-high school, area vocational high school, technical institute, or junior college. When we refer to post-high school, we are talking about several different kinds of institutions.

I doubt that we really know how significant the cooperative method is to education. We do have pragmatic results of continuing success for students in job placement. We need good articulation between the various levels of instructions in all of the disciplines. We need good supervision. We are moving ahead in vocational education. We hope that this study of the cooperative method and its possibilities for application will assist in personal and program development.

I think, in some ways, we need to decide if vocational education in specific occupational goals is available. In some areas there is vocational training, but you have no industry in that area that can give the kind of experience that is needed. There are several facts the student has to know. They form the hard core of the center of the learning experiences. Then there is a group of learning experiences which the student should know. Some of these are such things as the way the system works, profit, locations, recruitment of employees, and knowledge which will be usable in later life. Some of these are the things which the better students may have an opportunity to learn as a part of extended work.

Diversification within a classroom probably tends to dilute a discipline, and the related instruction in the classroom will need to be supplemented with better "downtown" instruction if the coordinator is to perform his task well. Something is not always better than nothing. There is undoubtedly a point beyone which coops should be diversified. The "downtown" lab should be used to provide experiences which it can provide better than the school.

It is sometimes possible to incorporate learning from other disciplines. For instance, in the agriculture-horticulture program, the agriculture people can make a valuable contribution to some of the other disciplines.

What about the provisions for ages of students? Each state has the perogative of setting its own limits within the framework of the Federal laws, but quite typically, the limits are 16 and 18 years of age, depending upon the state within which the program operates. Typically, the in-school and out-school time spent in a coop program are equal. It can be a half day or whole day, it can be a semester in school and a semester out, six weeks in with six weeks out -- particularly in the post-high school systems, the times can be valuable, but they are usually equal. With reference to the credit given, some high schools give more credit for the work component than they do for the related instruction and in some cases, the reverse is true.

Vocational teachers have a unique characteristic which stands out from other teachers -- empathy toward their trade and toward their students. Everyone has some methodology. The vocationally licensed teacher also brings to his certification and to his student, the competence which he developed in his trade and the empathy for the trade and for the student, which was mentioned before. Besides this, the coordinator brings with him the unique characteristics which make him a coordinator. We don't really know these characteristics, but we have tried to list them and some studies have been done about him. I believe that some day we will have these identified for us as the characteristics which are present in an enterpreneur -- the risk bearer -- the characteristics which make a good coordinator are those which enable one to stand the pressures of risk bearing and participation in business and industry.

During these three weeks we will work together with some of the best consultants in the nation to study the organization and operation of cooperative work experience programs in trade and industrial education at all levels.

"AIMS AND OBJECTIVES OF COOPERATIVE EDUCATION"

Frank Vandegrift

One of the things that we get into when we talk about work study and cooperative experience, cooperative education, or work experience program, is terminology. There are many programs, and I suppose each one of you is more or less a specialist in one area or another of these type programs. Generally speaking, they fall into a couple of different groups. We want to talk about objectives today.

The federal government, for example, has a program called work-study. The general areas of work-study or types of programs are: (1) Cooperative education, (2) Work-Study - subsidized federal funds, (3) Work experience, (4) D. E. and D. O. programs (in high schools).

There are still other programs which fall under the general topic of work study. We found, for instance, that some persons have started merging a lot of these titles and calling one or the other of these programs by the wrong title. When they ask the government to support proposals or if they are trying to define the programs in a booklet, there seems to be general confusion about some of the terms used.

About a year or so ago, the government produced four volumes of definitions, and in these four volumes are some terms that may be meaningful to us this morning:

Work-Study Plan or Program

A combination of many forms of classroom education and work experience. It may involve a part of each day or week which is devoted to employment and a part to organize classroom work; frequently resorted to as a means of providing financial assistance which enables some students to obtain formal education who would otherwise be deprived of the educational opportunity without the supplement of income. Many may have as a major objective a motivation to enrich learning. Special application may be designated as cooperative education work. This is what I am going to talk about today. We will see how many of these aims and objectives under this one program will fit some of the others because I suspect they are all there.

Work-study may include all experiences related to the discipline studied, but does not preclude employment for such purposes as financial support, development of skills, etc. Cooperative education as defined by the U.S. Department of Health, Education and Welfare is an application of the work-study plan specifically applied to baccalaureate and graduate education in which the student alternates between periods, often three months long, of full-time academic work or full-time employment in responsible educative jobs. Work periods are supervised by the employer, with the college or university representative giving surveillance. Comprehensive reports are required. The plan uses real life situations as laboratories and the coop students at work receives prevailing wages.

Some programs are definitely set up to provide financial assistance to the students. That is the primary aim. The work has nothing to do with the study. This does not relate to cooperative education because our cooperative education program is looked upon as an educational method; it is a teaching method and includes an educational process. The cooperative education association says that cooperative education is defined as a process of education which formally integrates the student's academic study with work experience in a cooperating employer organization. The usual plan is for students to alternate the periods of college study with periods of experience. In other words, they are in school a term and out of school a term.

One of the good things about work-study is that it is large; it is all inclusive in a lot of areas. You may have several different types of work experience programs. There is much flexibility in this type program, depending on your institutional needs and depending on the type of students you have; whether they are liberal arts minded or engineering minded or whether they are at a technical level or whether they are at a high school level, and in some cases their high school degree will serve to be a terminal degree. The diversity of these programs is a real strength for our country and for our educational system. It is not that all of them need to be one or the other but they should fit the various needs in various sections and at the various levels of education.

The primary aim of cooperative education is education. I could think of many people across the nation in 70 or 80 institutions that have these programs where this would not be argued at all. But, I can think of other institutions where they have particular aims in programs they call cooperative education. For example, let us take Antioch College. Antioch has the view of simply putting their students out to work. These work assignments may not be at the same place everytime or may not be in the same type of work. The work does not have to relate to their curriculum. It is a broadening experience in a post-high school level situation. It is simply to sort of broaden their experiences in human relations. This is a unique definition of their own. Many people across the nation would not agree with this.

They go on to say that they believe cooperative education is the finest educational method yet devised for educating carefully selected students for their chosen area of specialization or profession. Well, this is true if you say carefully selected students because not all students really ought to be cooperative students. It is a good educational method and it works in a number of instances, but for some students it actually does not work. Let us take, for example, a student who is in school for a period of three months and goes into a calculus or physics course. Later he is away working for three months on the job and comes back and begins the next course in the series after being away. If this student has trouble with recall, he probably will during all of his alternations in and out of school, experience a downward trend in his grades because of his problems in recall. This student either needs to "bone up" before he returns to school or he needs to take night school or correspondence courses while he is at work. In a lot of cases, we see students who are just not the appropriate type for the cooperative education program. I have one student in mind who has, for two years, made out an application for our cooperative education program. I really could not honestly place that boy out in industry, because of his level of maturity. He was too immature. It would be neither fair to this student not to the employer. We kept saying that maybe his maturity level will improve in another two or three quarters. I doubt if we will ever be able to place him, and I am not sure of what maturity level this lad will graduate from Auburn with, if he graduates. These matters have to be taken into consideration. Some situations are not appropriate, for example, for girls to be assigned to. We have girl engineers, girl business administration students, regardless to race, sex, or national origin. Then once in a while, we will call a company up and say that we have a girl who is an aerospace engineer, how about taking her? They will say - listen, you will do us a favor if you placed her elsewhere. Our situation is such that this girl - well, you just should not put a young girl where these fellows have to work. The situation is just not proper. We even have government agencies that tell us - "You would not do the girl any good by having us entertain her application". Then we will go to another company and have no trouble placing her.

Please do not get the wrong idea, but there are places that are not exactly appropriate for some students. Take an outdoor type student - to put him in a bug engineering room under flouresent lighting, working on a drawing table all day long for three months while his peers go back to school, this lad just can not take it.

He is an outdoor type and perhaps would do a fine job in civil engineering. He would much rather be out working with a railroad crew somewhere. So you must take into consideration the type of personalities that you are dealing with and try to find a situation that will produce appropriate responses. We are talking about an educational experience and I say that education, in cooperative education, is really the only justification that an institution can offer for having such a program. These are strong words and I think George Miller, when he comes, will bear me out in this as well as some of the other consultants. Education is the only logical excuse that we can have to operate such programs. This program is not to be perpetuated as a welfare program to help poor students work their way through school, although a lot of them do start out with this idea in mind. Many boys and girls who come on the cooperative program come with the idea that I have got to have some funds with which to further my educational experiences and this is what they get into it for.

We must be realistic and recognize that there are other objectives and aims involved besides just the educative ones. Someone asked me "What is Auburn's philosophy of cooperative education?" I say it is simply to try to get a student a better education than he can possibly get by remaining on campus for his entire period of schooling; to get him a better education than he can get by just remaining in the eye of the ivory tower.

I have listed some other objectives for consideration and I feel that some of them may be controversial. They should not be primary but are worth consideration. Some secondary objectives that we may have at Auburn, or of any other educational institution, are not listed in any order of priority. We are going to relate a study which shows a wide divergence in objectives between the college coordinator, the faculty in the college, the industry coordinator, and the student himself. For example, a student's objective in cooperative education as stated the day he enters school is different than the one stated the day he leaves, and we have proof of that in a study. Most students, when they enter school, get into cooperative education to help defray the college expenses. Yet, the graduating seniors list that as about their fifth reason for why they went into cooperative education. They have forgotten the original reasons and the other benefits are illustrated so graphically that they tend to move the financial aspect down to number five. Well, let us look at some of this.

One of the real profound objectives is to develop skill in human relations in the student; to confront him with the ever present problem of personality and its dominating influence in most if not all important decisions in human affairs. This is true in political affairs, and with employers and government agencies. Does the supervisor like you? Do you like him? How about this guy you work along with? Is there a personality conflict? Are you always able to share each other's work, or do you just move yours over; you do yours and I do mine. If you get in trouble that is just your tough luck. The image that is formed of a person and of his personality may affect his promotion. So, this business of personality affects political lines as well as career lines. If we are working in an educational institution, it is what the Dean thinks of us or what the president thinks of us. This is where the raises in pay and promotions, sometimes, come from. We are, somewhat, awkward in developing this skill in human relations. All of us, as young people, have to learn to get along with other people as we develop early attitudes of being a member of the team and of self adaptation to more effective interpersonal realtionships. We must always be working to show our students that they have to always be working toward getting along better with people that are around them. They are not always impressed by this. This is just a lot of "malarky". When we talk to a college freshman about this, they ask what are you running a popularity contest? But, it is important and skill in human relations is that part of a young man or a young woman's ability to sell himself or herself to the world about them which has so much to do with professional success. We are interested in this, and we get "feedback" from employers and other people. We need it. We have to have it and it is very important. We have had people move from one company to another because of the personality situations that developed. In a lot of cases, students learn things they should not do or say, and some of these lessons have been very hard.

Another objective is reassurance in career selection. We have said that most of these students we deal with are just do young that they are not talking seriously about careers yet. Although some of them may think about it later on, it is important that the preparation they get works toward that period. We are trying to provide the student with a method of evaluating and testing his choice -- his initial choice of a profession and his personal aptitudes early in his academic career. For example, I know of a situation where a student grew up in high school who loved to build model airplanes. He was rather good at it. (These little gasoline engine things). He designed them, built them, and flew them around. So, he figured that when he went to college he would just go and be an aeronautical engineer. He went to Georgia Tech and got his degree. He went out to California and worked for an aircraft company. About two years later he and his supervisor sat down and agreed, in one of their progress reviews of the employee, that this guy really was not interested in aeronautics. He agreed and the supervisor agreed. The young man quit work and came back to Atlanta and went through the School od Dentistry. Now he is a dentist over there today.

Had this young man really cooped while starting out, he would have gone over to Lockheed in Marietta, Georgia, and saw what an aeronautical engineer does. I am sure that early in his career at Georgia Tech he would have seen that this is not really what he wanted to spend the rest of his life doing.

When one actually looks on the surface of this experience he finds that this man enjoyed working with his hands and his mind. He enjoyed expressing himself with his hands. In high school it was in the form of a little aircraft. But, later on the intricacies of all the engineering did not appeal to him, and he ended up in a career using his hands and using his mind still on a professional level. All of that expensive education really was to no avail except to show him that he was in the wrong area. We think that cooperative education helps a lot of students in these situations. I do not say that it does the trick for all of them, but I see a good many students who start out in engineering or in journalism or some other field at Auburn and will come in later and say, "I have decided to change my curriculum"; and ask "how will this effect me?" We say "good" - "fine", go ahead and change your curriculum and we will move you to another job that will correspond to your new interests. Sometimes the student will change his curriculum twice while he is in school. If he can do this early in his academic career then he has avoided buying a lot of education he will not ultimately need. This is one of the vital objectives, we think. Of course, in a way this is a sort of economic aid too. It helps the student on an economic basis because it enables him to change his curriculum early enough in his academic career so that he is not paying for a lot of extra quarters of tuition doing something that he will not end up doing.

Another objective is accelerated maturation. By taking these students out to introduce responsibility and mature relationships which will favor and mature the individual faster than if he had remained in the youth world until graduation. There is just no doubt about it. If you leave a student on campus for four years, all his reactions are going to be vital to youth about him. If he is with a fraternity crowd or if he is in a dormitory, whatever the fad it, that is the way he knows to express himself. That is all he knows.

But, take a student after he has spent a period in industry. Quarter after quarter while he is in school, he works with adults and begins to learn some of the mature approaches to work. His language might even be a different type at work than it is in the odrmitory. He may have developed a good deal more maturity and poise. He may even run up and down the stairs a different way at work than at school. But at least he is learning what it is like to be in an adult industrial or business world. This increases his maturity. In other words, he gets mature faster by this initiation process.

The interviewers that come on campus to interview graduates will tell us, generally speaking, that they can tell a young man who has had experience in industry as a coop student by the way he comes in and by the way he handles himself in an interview because he is already been through this procedure several times with his coop employer. He is accustomed to talking with personnel people. He is accustomed to asking questions and having them ask questions. He handles himself better as a senior when he is actually interviewing for a job after graduation. He is more poised. Then, the type of questions they say he asks are not little "knit picking" questions that you would expect a very immature person to ask. But, something that concerns the whole project is depth.

Another objective here of the educational institutions is to try to help that student academically. To provide the student with contact within the area of his profession which serves to make his academic work more meaningful. It may influence a serious choice of course electives and increase his motivation. The results are more realistic educational experiences and better grades.

If we can motivate a student to work a little bit harder, of course this is going to make his education a little more meaningful to him and this is going to result in higher grades. There is one institution that claims that after students go on the coop program they raise their grades considerably. I do not believe they do at Auburn, but I do think that there is an appreciable rise in grades for these students. There have been some studies completed on this, and the results of one is carried in the Journal for Engineering Education by Ray Lindenmyer of Northeastern University. He has charted this rise in grades due to coop training. There is a very noticeable difference in the two curves. One goes up at a different rate than the other throughout the students academic career. Because the student is more motivated by what he sees in industry and relating some of that to his academic work, he may study jarder.

Another thing that we are interested in at any educational institution is to prepare this product, this student, to ultimately go out into this world of work. So orientation to the world of work, to impart understanding of and familiarity with problems and viewpoints of the labor force. This goes back to the skill of human relations, but we are talking more about the viewpoints of the laboring man. This goes into an aircraft plant, or a steel mill, or aluminum works. He has got to know, and have a feel for the union situation and management. To participate as an employee learning the protocal and diplomacies of the working world. You just do not walk up to the vice-president of the cooperation and slap him on the back and say "Hi Bi;;". If you are one of the laborers or coop students, or one of the people down there, there are certain respects that you pay. There is certain protocal in the industrial world, and these are learned by the students observing what happens. If a student can ascertain these early and get started on this orientation into the world of work, he just hits the world running, so to speak, when he graduates.

As an educational institution we are dependent on industry and business in a number of ways. We are dependent on them for funds and for interests, and all sorts of support in projects if you want it. We are interested in improving these relationships. The cooperative program provides this for the educational faculties. I am talking about the teaching faculties who through their students keep more frequent contact with the activities and developments in business and industry. Do you know that we have students who come back from work and tell us about things that we had no idea existed? Once in a while a faculty member will, because of a work report from some student, go to an institution and talk to them about an area of interest and may even end up with a research grant because he has a capability in something they are attempting to do. They may have some advanced work in something he wants to be involved in. This meshes the faculty more with industry and the coop program. These people come on campus to talk to coop students and they go around from office to office and visit. This laison between industry and the educational institution, which we covet, is enhanced by this particular program.

Cooperative education affords better use of educational facilities to provide more efficient utilization of the educational plant and other facilities. Some figures have been tabulated which show that at cooperative institutions 14 to 60 percent more students can be graduated. A part of the students are out in industry, a part of them on campus and then there is the switch over. They are actually serving more students. It is hard to see how 60 percent more students could be graduated but one institution actually reported this. It does enable fewer classrooms to be in contact with more students at the same time.

Not too long ago we ran a poll on students who were graduating and asked them to tell us about the benefits they thought they had received from the coop program. The number one item they put down as seniors, was the experience gained by coop alternations. They put emphasis on the experience. I think this probably has something to do with the type if job offers that they received when they were seniors. This experience they had received was important.

The second reason that they gave, in terms of numbers, was that it really helped them "firm up" a decision about their careers. It either reassured them that they were in the right curriculum or it pointed up another curriculum that they needed to get into.

Thirdly, they listed just simply educational value.

In the fourth one they realized this all important aspect of human relations; of getting along with other people.

Only in number five did they list "financial". Now, this is a student - this is still a senior who is graduating while its fresh on his mind.

The sixth one they listed, and there were very few of these, the main benefit was that they got a higher starting salary when they entered industry.

The last one was increased maturity rate.

Some of the objectives that we have listed under the educational institution are also objectives of the student. Many students will quote some of these objectives.

Why does the employer get into this business? What is in it for him? What is his objective? What is his aim? Long range recruitment is something that is in the back of almost every employer's plans. He is ultimately out to bring these students into his organization, if he can. The employer hopes to select and train these students whom he feels will fill his future manpower needs. He hopes to orientate students to the challenge and opportunity within the organization with the hope of retention of these students upon graduation. This is one thing most institutions will insist on, that there be a contract, written or verbal, between the student and employer about retention after graduation. I would question the ethics of a student "selling" himself for a commitment after graduation. We do not deal with employers who try to tie a student up after graduation. We refuse to. Well, what about retention? What really actually happens in these cases? Well, we see on the national level about 50 to 55 percent of these students actually do remain with the employer they cooped with.

In most institutions, cooperative education started out in engineering. In fact it started at the University of Cincinnati in 1906 by Dean Herman Schneider with about twelve coop students in engineering. Through the years it has been an engineering type of program but it is now moving out into other disciplines quite rapidly. If its good for an engineer, why isn't it good for a Library student and for the rest? So this is the philospohy and it is moving on.

Northeastern University, I believe, has some grants from the Ford Foundation, and others, to push cooperative education in various institutions and this is simply a report of some of the things they have done. If you are interested in any help along these lines and you contact these people because they have the funds to work with, people and promotional materials, and whatever your needs are, feel free to contact them. Dean Roy Woolridge started the program in this particular state.

I think it is evident that no one person is a specialist in all of these programs. We know about the program. We are actively engaged in it. I do not even have the confidence to say that I know all about cooperative education, for we are continually studying it, developing new ideas, and exchanging information with other people in the field. This is a continuous challenge to me.

"THE DISADVANTAGED AND IMPLICATIONS FOR COOPERATIVE EDUCATION"

Dr. W. Vincent Payne

(NOTE: This presentation was summarized from Dr. Payne's remarks.)

A brief review of the MDTA project at Tuskegee Institute was outlined. It's title is "Experimental and Demonstration Project for Rural Workers at Tuskegee Institute (1966-1967)." The project is funded through three governmental agencies--the U. S. Department of Labor, the Department of Health, Education, and Welfare, and through the Bureau of Employment Security.

During the year beginning in June 1966 and ending in June 1967, a total of 125 individuals were trained in four occupational areas--brickmasonry, carpentry, meat processing, and nurse aide. Thirty-two women were trained as nurse aides, and 31 men were trained in each of the other areas. The staff is currently in the process of placing the individuals on jobs. At the present time, 83 percent of those who completed training have been placed; the prospects are promising for the remainder.

One of the strengths of the project is the fact that the basic education was closely coordinated with the respective technical skills and counseling. The basic education consisted of mathematics and the communication skills--English and reading. This coordination worked very well; the learning was more meaningful to the trainees. It seems that it largely accounted for the fact that 19 of those who were enrolled in the program took the General Educational Development Test of High School Equivalency, and passed it. Some of the 19 were functioning at the 5th grade level when they entered the program.

Only nine of the 125 trainees who began the program failed to complete it; this represents a retention rate of 92 percent. We would like to hope that the reason so many remained is because they were so highly motivated. This may be true, but an important factor is that the incentive pay which the trainees received was largely responsible for their staying. The allowance was based on the current unemployment rate for the State at a given time. At the conclusion of the program each trainee with dependents was receiving a basic allowance of $30 per week, plus $5 for each dependent up to 6, and/or a travel or subsistence allowance not to exceed $28.

The disadvantaged may be identified with a number of ethnic groups. Those who are generally placed in this category are: (1) American Indians; (2) Appalachian Mountain Folk; (3) Mexican Americans; (4) Negroes; (5) Older Americans; (6) Puerto Ricans, and (7) Youths. It was noted that these groups were listed in alphabetical rather than hierarchal order.

In response to the question "What makes an individual disadvantaged?", it was stated that some persons are disadvantaged merely because of the circumstance of birth. They happened to be born in a certain environment and under certain circumstances, and automatically became disadvantaged. Discrimination of various sorts causes a person to become disadvantaged. On the other hand, a person may be disadvantaged because of the lack of initiative.

Characteristics of the disadvantaged include:

1. Low literacy level
2. Health deficiencies
3. Lack of salable skills
4. Lack of aspiration
5. Distrust of others, particularly authorities

The latter two characteristics were suggested by the group. It was pointed out that not all of the characteristics of the disadvantaged are negative. It is the opinion of the speaker that the word "disadvantaged" as it is commonly used implies low economic status.

It was pointed out that of the total number of individuals who are disadvantaged, nonwhites constitute only 22 percent. However, nonwhites remain on the unemployed rolls longer than the 78 percent white majority in this category.

The MDTA project at Tuskegee Institute has avoided using the so-called general "intelligence" tests. This was to avoid the "middle class bias" that is inherently built into many of the usual standardized tests. The tests that were used were the Revised Beta, a non-verbal test, and the Gray Oral Reading Test. The Beta, a group test, was used in lieu of the Wechsler Adult Intelligence Scale.

Contacts have been made with over 2,000 individuals prior to the beginning of the MDTA project. However, when the time arrived, the staff had an extremely difficult task of locating 125 persons to fill the required quota. A number of factors had to be considered. Among these were that some of the 2,000 had left the State, and perhaps some did not understand fully what the program was concerned with.

The role of the teacher in the classroom is an important one, especially when working with the disadvantaged. There is some opposition to the point of view which some educators hold, that the home has the greatest influence on the success or failure of a child in school. Dr. Kenneth Clark, in his book Dark Ghetto, puts most of the blame for failure of the disadvantaged in school of the teacher in the learning environment.

Some of the factors which cause individuals to become disadvantaged are: (1) Lack of parental care; (2) Poverty; (3) Discrimination; (4) Inferior housing; (5) Inadequate schools; (6) Ill-prepared teachers and (7) Desertion-matriarchy.

Some of the characteristics of a disadvantaged population are: (1) Unemployment; (2) Crime; (3) Deliquency; (4) Illegitimacy; (5) Dependency (welfare); (6) Migration to cities and (7) Riots.

Following the presentation, a motion picture entitled, When I'm Old Enough . . . Goodbye, was shown. The major theme of the film was that the individual, who drops out of school to work, has an extremely narrow chance of succeeding in a complex, technological, competitive society.

WHAT IS THE APPROPRIATE EDUCATIONAL LEVEL FOR OFFERING COOPERATIVE WORK EXPERIENCE PROGRAMS?

Dr. Fairchild H. Carter

We will spend a few minutes this morning discussing the coop method as it might be applied to all disciplines. Then we will consider the method as it is applied to the trade and industrial fields at all levels -- high school, or post-high school. This discussion may even include some of the areas which are allied, but not specifically defined as trade and industrial under the vocational acts.

We would like to consider our programs as capstone programs of quality education, for credit, for pay, which should assist persons to progress satisfactorily in a continuing program of education if they so desire. Some of you consider high school trade and industrial cooperative education as terminal. I suppose in a certain context it might be considered that if you are thinking about entry level positions, but if you move on to a progressively higher level, there is no reason it cannot be articulated meaningfully into a program which, too, can employ the coop method.

On the other hand, if the coop method is employed for learners of very low ability, the quality of this learning would not be defensible for high school or post-high school credit by our definition.

Each of you have read about the drop-out problem. You also know of the college matriculation rates and the percentage of college completion around the country, so we need not belabor these topics here. You are also familiar with the employment trends and the percentages of change in employment opportunities and the emerging occupations which did not even exist at the end of World War II. We have pupils in our classes now who will be middle-aged participants in the labor force in the year 2000 working in jobs which do not even exist currently.

In 1962, more than 20,000 young people were enrolled in industrial education cooperatives in the U.S. in which the industrial firms of the country were providing the laboratory facilities and personnel to assist in the training for employment. These experiences were real -- the conditions were real -- the interpersonal relationships were real -- the pressures were real. The number of programs is growing because of expansion within the secondary schools and in other institutions as a higher level or grade. It appears that they will continue to expand numerically in the forseeable future, both as a matter of economy in educational costs and in the quality of the instruction.

Very often, on the post-secondary level, the training station employs, two students -- "matched pairs" -- so that one is working while the other one is in school and vice versa. In effect, the two students provide the equivalent of a fulltime employee to the employer. This is just a system and need not necessarily be adopted. The essential feature of cooperative education is the alternating exposure to theory and practice and the application of the theory on the job.

As almost all educators know, the cooperative method was used in Engineering by Schneider at the University of Cincinnati in 1906. Very obviously, then, cooperative education is not new in the institutions of higher learning, although we refer to vocational education as that not leading to a baccalaureate degree. Cooperative education is being used in many collegiate disciplines--business administration, arts and sciences, marketing, math, physics, chemistry, and many others.

Post-secondary trade and industrial education, for our discussion, may take place in any one of several institutions, regardless of what they are named -- junior colleges, community colleges, institutes, area vocational schools, program within four year institutions, extension divisions, and regional campuses.

Any number of liberal arts colleges of today started as manual training schools, and it is almost inevitable that there is a tendency for the vocational schools of today to move in the direction of general education. However, the fact that this will probably happen and also the fact that many other government agencies are serving in the educational field does not bother us too much if we persist in the offering of quality programs for an audience which needs, wants, and can profit from our instruction.

Cooperative trade and industrial programs on the high school level usually have the following characteristics:

1. Usually the students must be at least sixteen years of age, although some legislation provides for a minimum of fourteen and some occupations in other states are restricted to those eighteen and above.

2. The students need to possess the minimum physical qualifications to enable them to perform the work required in the training station.

3. They must have the necessary personal characteristics needed in the job. These might include such items as introversion or extrovert tendencies in their personalities.

4. They must possess enough scholastic ability to enable them to carry their school load as well as keep their work performance at a desirable level.

In high schools, the programs usually involve 15 hours (minimum) of work at the training station. The major portion of this is during school time for every week that school is in session. A program in which the students are employed only for peak periods of employment is a work program.

The student-learner is paid a wage equal to that of other employees at the same level or similar job level in the organization.

An organized schedule of varied training experiences are provided in writing, so that progress may be checked. The duration of experience should be great enough to develop competencies which will permit the student to perform adequately to be acceptable for regular employment.

Any coordinator here can describe a typical set of activities for you, and we will prepare an analysis of the task of coordinators within one of the task force groups as a kind of summary for part of the week of the conference.

Forecasts for development of post-secondary programs suggest that such institutions will double in the next ten years. Part of their function will be to teach people to work with machines and tasks which do not exist now. Some persons will learn and relearn all during their lives. Part of this learning will be accomplished within the schools and some will be acquired on the job taught by industry. Some of it will be acquired in formal programs of cooperative education.

Industries are attracted to communities which have good schools and a pool of trained or trainable labor and these are things to which you can contribute. In order to be reimbursed from Federal funds, programs must be under public supervision and control, but may be operated by any approved agency -- a public school, private school, business or an industry. Cooperative education should be used when it will provide the best in education, when it can accomplish better outside the school than some other program can within the school, the objectives of the learning program.

There are several good examples of work-study programs within colleges. One of the most well-known is the one at Berea College in Kentucky. Learning experiences and financial support for the school and the students are all important to the program. Tuskegee Institute uses the in-business and industry experiences for some of its students.

It seems that there is a tendency for the college-connected programs to be work experience programs which provide support and experience, but not credit per se. Antioch is another example of this kind of program.

One definition of post-high school technical training is that it is a program under public supervision and control, not leading to the baccalaureate degree, and which will enable the person, at the completion of the program, to assist the professional engineers. This expenditure is looked upon as an investment in the education of persons which will enable them to utilize talents and make valuable contributions to the economy as a result of their learning. Mobility and national defense have been used as basis for justifying programs which are tending to be less localized in their objectives. The students involved in these programs have demonstrated the competency to graduate from high school. They have a sound base in general education, are more mature, more highly motivated than the usual high school student, and are closer to a choice of specialization.

Teachers in technical fields on the post-high school level have not been defined. I doubt that anyone knows the characteristics of individuals who would be most competent at that work. However, they will need to know the psychological characteristics of the audiences they will serve. They also must have requisite understandings and realize that the level of competence for which they are teaching is not of the task or even the entry level of occupation, but at a level which will permit the learner to make a contribution to the work station at a higher level of performance.

Some of the scheduling problems of the post-high school programs will be quite great; they will have to consider the most advantageous blocks of time, the possibility of using "matched pairs", the problems involved in needs of students where certain sections of instructional material will need to be scheduled, back to back, in semesters where they ordinarily might not intend to offer certain classes.

Related instruction in specialities, rather than the diversification of the high school programs, may be more likely found in the post-high school programs. Some of the areas that are being served are airplane mechanics and the petroleum industries. In some of the institutions, a series of interdisciplinary programs has been developed.

According to the American Technical Education Association, the technical curriculum refers to a program of studies which prepares the student for occupational competency in a field in which success is a dependent largely upon technical information and an understanding of the laws of science and technology as applied to modern design, production, distribution and service occupations. The technical area has a large component of math and science -- it is moving from the manipulative. In order to standardize the objectives of technical education, the Association suggested that graduates should learn how to perform a semi-technical function, get along well with people, and be useful citizens to the community. It emphasizes a good base in general education, the importance of the human relations area, and the semi-professional area. The scientific or engineering technician usually works in one of the broad fields of research, design, or development, where he generally works in direct support of an engineer or a scientist, although he may or may not work under close direction. He may, in some cases, be given policy and may operate as a free lance performer. Training, at this level, is directed at occupations at a higher level than those typically found in the high school cooperative programs which are more nearly entry levels occupations. There is undoubtedly an overlapping of levels of preparation by all of the institutions, so there are now our clearly defined levels of demarcation for education-establishing limits beyond which they must not extend. In the field of his specialization, the technician must be trained, regardless of the institution, as an expert in his own right and is expected to make judgmental decisions which are of the same type as those of management. There is no place in this field for a second-place intellect.

Cooperative education will undoubtedly expand as methods for development of technicians and technologists are improved as well as on the high school level. Time blocks of varying sizes will be used, usually using equal time in school with equal blocks on the job in true coops but varying so that in some cases the experience component is only about one-third of the academic component. In one institution, they are using a full year at one place for on-the-job experience. Regardless of the level of instruction, similar benefits accrue to the students.

"WHO IS TO BE SERVED BY COOPERATIVE WORK EXPERIENCE PROGRAMS?"

William W. Wolansky

Perhaps it would be helpful to have several terms defined for purposes of clarification and further discussion. The three terms are: work experience, work study programs, and cooperative work experience.

Mason and Haines have defined the term work experience as, "Any curriculum plan that employs experience in a productive work setting to derive desired educational outcomes."(1) This term is used in its generic sense in the above description.

Work study programs, a basic type of work experience, uses a work situation as the source of learning experiences. The student performs in approved job situation and is paid for his services (cafeteria helpers, office workers, library assistants). In-school instruction is seldom tied in directly with job experiences.

Cooperative work study provides for a training station with correlated instruction in school. The student receives credit for his experiences in the work station and generally pay for his services. This program is supervised by a coordinator.

Who Should Be Served

> Work study programs, with job preferably tied to future career plans, should be available to all high school and junior college students, regardless of family income.(2)

Every student in industrial education would benefit from the experiences gained through the cooperative work study program. No one should be denied the opportunity to participate in a CWS program, particularly a student: (1) who has the experience, (2) students who want the experience, and (3) students who can profit from such an experience.

Cooperative occupational training programs are developed for students sixteen years of age and over who are juniors or seniors in high school or enrolled at the community college level. Younger students including boys and girls have been placed in cooperative supervised job-training programs as was reported that, ". . . an experimental program had been initiated in Chicago to help to remedy the unfortunate situation for many of these youths."(3)

These were over-age elementary school students that were placed successfully in work stations and provided related work in school.

Students who are preparing for entry level jobs in business or industry would perhaps be able to benefit most from cooperative work study programs.

To retain potential drop-outs through the combination of academic work and part-time employment. This arrangement helps the student financially as well as satisfying his need for practical training and experience.

Cooperative work study programs at the post-secondary institutions are much more successful. Employers favor the older employee and the one who has taken his vocational training at a post-secondary institution.

Students at college level in some fields of specialization would also benefit from cooperative work experiences:

Agriculture	Engineering
Business	Industrial Education
Distributive Education	Journalism, etc.

If there is any validity that approximately forty-five percent of the hish school students should be enrolled in vocational education within the next decade, then educators will need to promote CWS as deliberate and planned programs geared to utilize maximally the resources of the educational institutions and local business and industry for the youth of this country.

Expansion and extension of CWS experiences will provide advantages to the student, to educational institutions, and business and industry.

Educational Rationale for CWS

Over the years, it has become clear the no vocation can be completely mastered in a school. With the world of work concept, it is also recognized that students must have opportunities to make the transition from school to work with a minimum of difficulty in adjustment. To make this transition more successful, schools recognize that they must function in close harmony with industry.

1. CWS programs are based on the premise that learning takes place more rapidly, and is more permanent in an experienced environment.

2. Cooperative programs integrate school and work by combining classroom instruction with supervised part-time employment which meets and expands student's abilities, aptitudes, and interests.

The "training station" which is furnished by the employing firm, provides a laboratory in which the student applies, observes, and tests concepts and skill presented in the job-related class in school, thereby increasing transfer of learning to the employment situation.

Job performance and progress toward development of skills, knowledge, and attitudes required for full-time employment are provided by the employer and are supervised in cooperation with a coordinator representing the school.

The student assumes the duties and responsibilities of a wage earner. This is a real life situation. The make-believe aspect of simulated school experiences is removed.

On a reduced time program in school, the student receives instruction related to the occupational preparation and he participates in regular course work required for graduation.

In a cooperative training program, it is recognized that formal education does not have to follow the traditional 2 x 4 x 6 x 9 *dimension*. Learning does not only stem from two covers of a book, within the four walls of a school, during six periods per day, and for nine months of the year. Learning can stem from meaningful experiences wherever and whenever these can be provided.

A cooperative training student qualifies for a regular graduation diploma, but adds to his qualifications specific initial training and work experience.

The Basis For Organized Cooperative Work Study Programs

A recognition that business and industry can provide the facilities, supervision, and life like setting which require the individual to apply his knowledge, make decisions, and assume the responsibilities of a worker. The environment in which the learning takes place is or simulates, the adult work world to the maximum possible. Education becomes related, meaningful, realistic to the student.

There is a growing consciousness on the part of industry and education for the need to cooperate in order that youth may be given a true representation of the opportunities in industry and the educational and occupational requirements to succeed.

Our attitude toward learning, importance of learning, and the concept of community utilization of more agencies and resources in a cooperative and democratic effort to provide maximum education for the manpower force to fulfill the expectations of individuals and demands of our society is helping to elevate occupational education above its previous demeaned position.

Stumbling Blocks for CWS Programs

The Child Labor Laws place some limitations of the kinds of work, time of day, number of hours, etc. for employment of minors.

School insurance, workman's compensation, and labor union difficulties may create problems in terms of student placement.

A work permit may be required for employment of students under 18 years of age.

Military and research projects prohibit the employment of minors for security reasons.

Lack of appropriate work stations in the surrounding area.

Lack of specially trained coordinators.

Difficulty in time schedules for work and for classes may be encountered.

In summary then, students who have the greatest need and would profit most by CWS programs should be counseled, placed in a favorable work station, supervised, provided related courses in school, and have his progress evaluated by a qualified coordinator. Priorities will have to be set up, opportunities for girls and boys must be made available, and continuous dialogue maintained between industry and education.

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"ADVANTAGES OF COOPERATIVE WORK EXPERIENCE PROGRAMS: (a) To Education; (b) To the Student; (c) To Business and Industry"

Dr. John A. Jarvis

I am happy to be at Tuskegee Institute. I recall spending a very pleasant two weeks here during the summer of 1964.

I believe you should know of my prejudices about cooperative education so that you will be able to better evaluate my remarks. First, I am a strong believer in cooperative education. Second, I am responsible for such a program at Stout State University, and third my son is enrolled in a college in a full cooperative program. I am, then, quite biased in favor of this kind of educational program. It seems that in this type program, call it co-op or work experience, all who are concerned will gain. The students certainly gain, the faculty members gain, the institution gains, and industry gains.

Any educational program or idea will have its critics. There have been four main criticisms: (1) The confusion and lost motion caused by having students shift back and forth; (2) Students tend to forget their academic work while on the job; (3) Co-op students are more reality bound or less creative when compared with students in conventional programs; and (4) Co-op students would not participate in extra curricular activities. A rather detailed survey has been conducted on these and other matters in co-op programs and all of the accusations have been found to be unjustified.

I am well aware of the possibility that some of the topics discussed here may cause some duplication and I will make every effort to stay within the bounds of my topic. I will also use illustrations from my own experience at Stout.

VALUES TO THE STUDENT

1. Studies More Meaningful - It has been said that theories studied will have more meaning and the co-op student will tend to develop greater skill in applying theory to practice than the non-coop student. Almost 75 percent of the faculty members surveyed tended to agree or strongly agree with this statement.

The subjects studied at school take on new meaning when the application of a principle, concept, or idea is discovered or developed on the job.

The discovery on the part of a student that algebra, the reading of graphs, and trigonometry have many applications in the world of work which makes these subjects come alive and have real meaning.

The student is more apt to take studies on faith if he finds the practical application for some of the theories on the job. Without the work experience, the value of all subjects, in the eyes of the student, are taken on faith.

The learning of principles, concepts, or ideas is more important than learning the steps by rote in doing a particular job. Any boost given to this type of learning is important. Each new and different understanding of a principle reinforces and adds depth to the understanding already learned.

2. Sound Technical Training - Since the student has been applying the theories, concepts and ideas learned in the school or college classroom to the solutions of problems met while working, he has learned more and he will retain it longer. Using a broad meaning to technical to include distributive education, business administration, and so on, the techniaspects of training received on the job are most valuable. They supplement and complement the theories and facts learned at school.

3. Guidance Values - To talk about an occupation, its demands, and the things that one must do to earn a living as an engineer or technologist is one thing; but, it is quite another thing to observe the things that they actually do. The co-op student is able to observe the work of many persons with similar majors. What do mechanical engineers do? He is able to compare and contrast his interests in his selected field

and his abilities and aptitudes with persons on the job. He can identify the avenues for promotion. He will come in contact with persons working outside of his area of special interest and he may transfer if his interests and abilities seem to match another position.

4. Financial Assistance - Most, if not all, co-op students are paid while working. One group of co-op students earn about $2,400 their freshman year and they can complete a year of study for a total cost of about $600. At GMI, if the co-op student can live at home either the work or study period, it is possible that he may be able to complete a college year without financial assistance of any kind.

   Co-op students seem to be similar in many respects when compared with non-coop or regular students. One difference is that about 1/3 of the co-op students come from the lowest socio-economic group as contrasted with 20 percent non-coop students. This means that about 20 percent of the regular college students come from the lower socio-economic group. It is possible that this 13 percent difference represents those who could not attend college without the money earned while co-oping.

5. Matures More Quickly - While employed on the job and because of his many work contacts and experiences, the co-op student matures more quickly. Contrast the experiences secured by a student who has the following work experiences: Anderson, Indiana; (2) Toledo, Ohio; (3) Bay City, Michigan; and (4) Detroit, Michigan.

   In each place, he will live with a different group, work with a different group. For example, at Anderson, Indiana, he will be assigned a one-week workshop with engineers; in Detroit, he will assist in the development and writing of manuals and at Bay City, Michigan, he may not work at all, but spend only a short period in any one department.

Contrast these experiences with a person who is raised in Menomonie, Wisconsin, and then attends Stout and graduates from college without ever being away from home over.

6. Learns to Get Along with Others with Different Backgrounds - A series of work assignments such as just been discussed, will bring the student into contact with workers and students with quite different backgrounds.

   Some persons with limited education and training are very competent. Some persons who do have college degrees are sometimes not too effective on the job. He will observe a few on the job who try "to clip the corners," and he will quickly observe that this does not work. He will learn that respect is earned and not freely given; he will learn that people are loyal only after they have a reason to be loyal, and he will learn cooperation is freely given when merited.

   He may, on occasion, be treated unfairly because he is a co-op student and he will learn how to work in this difficult situation.

7. Observes Progress of Workers - He will be able to observe the progress of workers--those who have been slowed or stopped because they lack the educational backgrounds. He should develop a greater appreciation for the value of his education and become a better student--a more highly motivated student.

   He should also be able to observe the personal characteristics of those who are not. Last in this group, he develops an employment record.

8. Develops An Employment Record - He will have a record in a real situation; one that will assist him upon graduation. This work record and recommendation will include comments on some of the items listed:

   a. Ability to get along with others.

   b. Willingness to assume responsibility.

   c. What does he do when he makes a mistake?

   d. Is he creative?

   e. Does he really work?

VALUES TO THE SCHOOL

1. Placement of Graduates - Because graduates do have a work record, their placement is easier, more effective, and more efficient. Co-op programs vary, of course, and some graduates are placed with the company they co-op with upon graduation. Some work experience programs are not complete in that they involve only a summer work or two or three summers. Others require work over a four or five year period to be complete.

   A college graduate with a work record and with a recommendation based on that work record is more easily placed and better yet, placed in an assignment he likes and is apt to be successful. I have been told that 67 percent of all living GMI graduates are still employed by General Motors.

2. Students Able to Continue in School - The colleges that schedule a complete co-op program, are able to attract the talented high school graduate. They can be very selective and they are. For example, 50 percent of the entering freshmen at GMI are in the upper 10 percent of their high school graduating class and 80 percent are in the upper 20 percent of their class. They don't admit students

unless they qualify to take calculus upon entrance. So they can be very selective. This type of student will tend to stay in college and graduate. Of the freshmen who enter, 67 percent graduate five years later and it's a five year program. This is an outstanding record.

3. Keeps Instruction Up to Date - One of the things that we have done is to encourage the instructors involved with computer to secure summer employment at the Chevrolet Engineering Center, Warren, Michigan. One year ago, three instructors and two students were at the same spot and then this summer, we have six persons working there--three instructors and three students. This was immediately and directly effective in our instruction.

   Students returning from work periods were appointed to report on current practices and developments in industry. Students reported that instructors were confident, and these written reports also give a realistic base for curriculum planning.

4. More Efficient Use of School Plant - Most full-time co-op programs are five year programs. If this is the case, then you can accommodate with the same instructional staff and the same instructional equipment, about 50 percent more students. Dean Schneider, originally developed the plan because he took more students than they could possibly accomodate at the University of Cincinnati. He is said to have done this to get himself out of a jam. His idea was to place half of the students in industry to work and then, after a period, these would come back to change places with the other half. Whether this is true, I do not know.

5. School Becomes a Part of Industry-- Integrated - The colleges become more clearly integrated with business and industry. They--the colleges--are

not separate ivory tower, but became a part of business and industry. Information flows back and forth and as with persons of good will, these relationships are certain to improve so that all will profit. The college provides more realistic training. Business and industry appreciate the problems of the colleges and a real cooperative enterprise is introduced.

VALUES TO EMPLOYER

1. Flow of Talent Into the Company - The cooperating company has the opportunity to look over the co-op student and upon graduation, make their selection and then place the graduate in a position that suits his aptitude and interests. All companies surveyed, listed this item without exception, provides a flow of talent into the company. Graduates have direct knowledge of the company and its operation. They have completed their training program while a co-op student. Many companies have training programs for the college graduates employed. These training programs may be as long as a year or two. The college graduate is rotated through a series of departments before assigned a permanent position. This rotation may be and usually is unnecessary for the co-op student. He has completed the training program as an undergraduate.

   Industry believes that a co-op program tends to cut down the cost of industrial recruitment and makes that recruitment more efficient.

2. Assistance in Semi-Professional Activities--Releases the Professional Staff - The co-op student relieves the professional staff by completing some activities or assignments; thus, freeing the professional staff persons for other duties.

3. Contribution to Education - The companies participating believe that through the co-op program, they are making a real and significant

contribution to education, in that, they provide some students means by which they can attend college. They provide means whereby, our instruction is realistic and up to date.

4. Service to Community - This item probably could be listed with three above. Participating companies feel that they are making a substantial contribution and a real service to the community.

VALUES TO FACULTY

1. Student Class Contributions Based on Work Experience - The co-op student makes contributions to class discussions based upon his work experience. The student's contributions indicate that he is relating the theory to his work experience--that he is developing relationship between theory and application. The faculty clearly agrees that students become involved in and motivated for their academic work. The instructor is able to capitalize on their work experience, and they see the importance of their college education.

2. I Must Keep Up to Date - The instructor must keep up with the latest developments in his field because the student will be working with these latest developments in the field.

3. Student Raises More Questions - Students have greater depth of understanding and because of their greater understanding, they raise more questions in the classroom and they are more insistant upon being shown.

4. More and Varied Illustrations Can Be Used - It is not necessary for the instructor to make a detailed explanation of a production line when discussing the material department. Work experience on or near a production line would be worth 10,000 words trying to explain what it is. The real reason for scheduling parts more clearly is evident to the student without detailed explanation.

5. Because of Work Experience Classroom Work Can Be Dealt with More Efficiently and Effectively - For some of the reasons already given, students are more mature, can see relationship, raise questions, are more confident because of their work experiences.

THE INGREDIENTS OF A MODEL COOPERATIVE WORK-STUDY PROGRAM

Dr. Willard M. Bateson

The topic assigned to me this morning is "Ingredients of a Model Program of Cooperative Education." The one assigned to me for tomorrow is "Guidelines for the Cooperative Work Experience Program." I presume the program to be discussed in each case is the same one regardless of a change in title. At least I hope so, for I have prepared my material on that assumption.

For the past twenty years, I have been directly associated with the coop program in one capacity or another, and during this time, one thing stands out quite clear -- no one name, title, or handle has been universally accepted or used. To mention but a few:

1. Cooperative Work Experience
2. Cooperative Education
3. Cooperative Occupational Education
4. Cooperative Occupational Training
5. Cooperative Work-Study
6. Cooperative Program
7. Work-Study
8. Work-Experience
9. Up-Grading
10. Diversified Occupation Training
11. Office or Distributive or T & I Coop
12. Part-Time Cooperative Training -- Ad Infinitum

Most of these describe the same basic program. On the other hand, among the programs identified by these terms, are some vast and sharp differences. For the present, I shall use the term "Cooperative Work-Study".

Mr. Frank Vandegrift, just a week ago, spoke on the "Aims and Objectives of Cooperative Education", and I am certain nothing further need be said on that subject; therefore, at the risk of some duplication, (which is not all bad), I would like to say a few words with respect to this aspect of the cooperative work-study program, for I believe program objectives are the most distinguishing characteristics of any educational undertaking. There can be no question that the educational experiences within a curriculum or a particular course are going to be difficult with different objectives. If the dominant purpose of the program is to enhance the individual's personal adjustment with the good life in general, the nature of the work experience will not be as critical and sensitive to the success of the undertaking as one in which vocational preparation is the dominant objective of the program. The cooperative work-study program distinguishes itself from all others in this area in that it is primarily concerned with preparing the individual for active participation in the world of work -- be it on the secondary or college levels, private or public education, and regardless of the occupational level or field of endeavor. Furthermore, it is for all individuals who might profit from such a program.

I believe it advisable to elaborate on the term "preparing the individual for active participation in the world of work". Several somewhat interrelated matters are involved in this term.

Before an individual begins his vocational specialization, he must first be given the opportunity to explore activities in the world of work or activities very similar. During this time, he should develop valid insights into his own likes, dislikes, aptitudes, handicaps with respect to the employment opportunities available to him. This activity may be recognized as the vocational guidance process. It is a Gestalt in which the work of the worker is the ground -- the background upon which the individual's characteristics and concepts are projected or superimposed to determine their appropriateness and validity. In other words, the first matter of concern in preparing for active participation is to assist the individual in his career identification, or vocational guidance.

The second matter is preparation for initial employment which needs no elaboration.

The third is placement.

The fourth, job security and,

The fifth, preparation for job advancement.

Preparation for active participation as may be seen is much more than just preparation for initial or advance employment.

I have with these remarks identified one of the essential ingredients of a cooperative work-study program, i.e., it must be primarily concerned with preparing the individual for active participation in the world of work.

From the term cooperative work-study, we recognize another of the essential ingredients of the program. I refer to the word work. The term refers to the work-experience or the on-the-job experience the student-learner has while he is engaged in the program. One of the greatest values, if not the greatest, is the experiences the student-learner has in the actual work environment. Try as we may to make the school shop or laboratory environment parallel that of the business, industry, or the world of work in general, we must in the final analysis admit that at best, it still remains a psuedo or contrived environment. Not so with the on-the-job experience provided for in the cooperative work-study program. Here we find reality in the flesh. It is this ingredient that gives the coop program its distinctive character, as the grapes to the wine or flour the bread.

The third ingredient I wish to discuss is the "study" aspect mentioned in the name coop work-study.

More specifically, I will identify this aspect of the program as related instruction. Two types are generally recognized in the program:

1. General related which is thought of as being common to all workers regardless of their occupational pursuit.

2. Specific related instruction which is directly related to a particular occupation. It is often thought of as being technical in nature.

The general related is concerned with such matters as "employer-employee relations", personality traits", etc. The specific related information tends to be much more occupationally-oriented and individualized. Individualization of instruction is essential for a number of reasons.

Besides the difference in abilities, personalities, environmental backgrounds, aptitudes, interested, and attitudes which are found in any group of learners, the cooperative work-study program has these added factors to contend with:

1. Students are often engaged in different trades or occupations, even though they meet in groups for related instruction.

2. Students require different related information for their various occupations even though some information may be common to all.

3. Students in the same group are often in different years of their training programs.

Thus, we see that programs for students at various levels of advancement require a particular kind of instructional method. This method is based on individualozation of instruction. In fact, authorities have said that it is absolutely impossible to educate student-learners by any other method. If individual instruction is necessary then the ultimate values of instruction cannot be achieved in classes operated in the traditional manner, which are studying "subjects" in the usual sense of the word. The situation requires different treatment.

Since vocational education is specialized rather than general education, those things which are to be taught are the essentials of the trade or occupation.

In order to make the specific related instruction worth while, it is necessary to make the instructional content very specific to the occupation. It is not possible to accomplish this by "arm-chair" methods in which speculation is the sole determiner of the content. The content must be derived by analysis.

Earlier I said that the ingredient of work experience gave body to the program. Perhaps I should say that the related instruction ingredient tends to give it flavor.

The fourth ingredient of the program I should like to identify is also taken from the title -- cooperative. Without this ingredient, the program could not function. Without the cooperation of many -- the total community, employers, employees, business, industry, government, management, labor, parents and a host of others; as well as those within the school, the administration, counselors, other faculty members and students, the program could not get off the ground. Much more must be said how this cooperative may be secured, but for the present, suffice to say that it also is an important ingredient.

The fifth ingredient is the student who enters into the program. Two speakers before me have dealt with this aspect of the program; so for the present, I shall move on to the sixth ingredient.

This last ingredient I shall identify as the coordinator -- he who is primarily responsible that all the other ingredients blend-- he may be a catalyst ingredient. Much has been written about what the coordinator should be -- if he had all of the traits attributed to him, he would be inhuman for there is no such creature.

In summary, there are six basic ingredients which I identity in a cooperative work-study program. They are:

1. Primarily concerned with preparing individuals for active participation in the world of work.

2. On-the-job experience.

3. Related instruction.

4. Cooperation.

5. Earnest students.

6. Qualified coordinator.

Each of these, of course, are made up of certain properties which must further be analyzed to determine what makes a particular ingredient good or bad.

"GUIDELINES FOR THE COOPERATIVE WORK EXPERIENCE PROGRAM"

Dr. Willard M. Bateson

I am using the term vocation or vocations, but in a very broad sense. I do not use or limit my definitions to those vocations that are reimbursed by federal laws. Vocation to me, I use the Dictionary of Occupational Titles, is that which includes all occupations that are professions, semi-professions, managerial or whatever it may be. This may include the unskilled and laboring classes. In other words, all ranges of occupations. It is interesting to note that some people use terms like vocations or vocational education as being synonomous with delinquent education; education for the handicapped or those who have been in reformatory schools. It is also interesting to note that in Michigan we have the Lansing Vocational School. It is the preparatory school for Jackson Penitentiary. In other words, it is a reform school. When we talk about vocational education in the vocational schools, to some people this means vocational education for the incarcerated and I say that this is not. I am in a vocation myself, so I am using it in a broader sense.

It is an interesting development in Michigan and, I imagine, in other parts of the country where they are using the term career to identify vocational education on the junior and community college level. Since the term vocational has that connotation to some people they are using career education or career guidance. I say that the preparation of individuals for active participation has to include aspects of vocationally assisting the individual to identify himself. Initial preparation, placement, job security, job advancement and lastly they should also be concerned with retirement from active participation.

The second ingredient is the preparation of the individual on the job. Third ingredient is the related instruction. Fourth ingredient is the student's qualifications, and the sixth one is the coordinator of personnel. At times, these ingredients can be good or bad. In any make-up of a program an ingredient of work experience can be an important aspect of the program. Then again, it can be so structured that it defeats itself. In other words, the ingredient is being a bad one in the program instead of being a good one.

During the break yesterday, a question was asked concerning a comment that I made in regard to role of the coop program on the secondary school level. The question was, "should the coop program, since it tends to be specialized in many cases, be found on the secondary level"? I said yes, provided there is a degree of exploration prior to the identification of a particular type of activity or occupational training; which is really your vocational program. The question was asked, "What is the basis for this since so often we start the program in the eleventh grade"?

I have a knack for antagonizing my colleagues because often times I break with tradition. It is not the research that I do myself but it is the research being done in the field by others that I tend to capitalize on; at least I read about it, and study it, and attempt to have this research influence for own thoughts. I have in mind in this particular case the work by Super, Overstreet, and Ginzberg, out of Columbia primarily and also the work of Havighurst, University of Chicago. These two studies among others, raise considerable doubt as to the amount of specialization that should be done on the secondary school levels. If we carry it on, we should carry it on with the understanding and realization that what we are doing might be questioned by some people.

I would like to quote some of these studies to support my position. In other words, in my position, I tend to postpone this area of specialization. First, let us deal with Havighurst's work on Developmental Tasks. These developmental tasks he identifies as tasks individuals have to face during all of his lifetime and the successful achievement of one task lends to successful achievement of the following tasks. In short, if he has failure meeting this task he has failure in meeting the task that follows. The Developmental task is from the time of birth until the time that the individual is deceased. For instance, when a child is born, his blood starts to circulating which is the first task. If it does not, he dies. In other words, a go, no go, sort of situation. It is no half-way measure for the most part. If he begins life crying, he is then able to meet the next situation.

We are concerned with two extremes in these developmental tasks. The ones that we are primarily concerned with in the field of vocational education are those that fall into the later elementary, early teen age, later or early adult life. These are those that might be identified as psychologically based. Let me say first that some of these tasks are biologically based or oriented, others are psychologically or sociologically based. Biological are those that are merely maturation, for the most part. Psychological or sociological tend to be more flexible in cultures. In our particular culture, these are what we find. In later elementary we find a youngster nine, ten, maybe eleven years of age will tell his mother "I don't need you, I hate you". The mother goes into spasms and wonders what she has done to cause the child to turn on her in this manner. Actually, this is a good sign that the individual is trying to develop his own personality and he is psychologically independent of the parent. At least, he likes to think this and the only way that he has of conveying this is by saying it. The teenager wants to become socially independent of his parents and other adults for the most part. This is why often times I suspect that we see the long hair and the beatniks. They are revolking against the morals, traditions which have been controlling their behavior for a long time. It gives them an opportunity to break away. It does not take the teenager very long to realize that in order for him to be socially independent or independent of parents in the home, he must also become economically independent. That term economically indepentend on the part of the individual, because this is a psychological, social based desire to become independent which has a direct bearing on his desire to identify himself with the way of making a living. Until an individual has reached this stage, all of the preparation that we have given him, 90 percent of it, is lost. When the individual has the desire to become economically independent, this is the time when we can arouse his curiosity with regard to the world of work and what he can do for a living. At this point, we find that the age at which this happens varies. In some cases it may be as early as 13 years of age, or it may be as late as 27.

I had a student come to me, age 27, faced with this matter of economic independence. He said, "presently", I am graduating with a B. S. degree. I can not do any more today than I could do before I started my formal college education". I asked him what he was doing before then and he said that he was "soda jerking". He admitted that this was all that he could do now at 27 years of age and he was vitally concerned about what he was going to do for a living. The point was, college to his was sort of a mechanism to postpone identification with a way of life. A lot of students can not postpone a decision on what they want to do; can not perpetuate adolescence in the college because he can not afford to go on to college. Their choice comes earlier. This means that we are forced then to provide an opportunity for a youngster to identify himself with a way of life. This is where the vocational guidance process begins at the age of 16, 17, 18, years.

You will recognize now that this is not the beginning of the eighth, ninth, or tenth grade, but I would say that for the most part in the eleventh grade, the secondary school level. So much for Havighurst and his economic or developmental tasks. I would say that the economic desire, the desire to feel economically independent, socially or psychologically oriented tends to be the motivating factor for the individual to identify himself or begin to identify himself for his way of life. This is the vocational guidance process beginning to take place. Super has probably done more work in the area of vocational guidance than any other man in education. He is at Columbia. One of his first books in 1946 was the Dynamics of Vocational Adjustments, more recently the Careers and The Psychology of Careers, then his co-authoring a book with Overstreet on The Occupational Maturity of Ninth Grade Boys. What he took then in this particular research study was to determine how well developed or mature were individuals at the ninth grade, boys in this case, with respect to their vocational choice. I do not know of many schools in the United States that do not require an individual, when he goes to the tenth grade, to make some sort of choice with regard to his curriculum. You as educators, know that the curriculum has to be identified with a particular occupational area. And what we are actually doing is asking the boy at the end of the ninth grade to make a choice of his life work. This is what I consider to be a very stupid thing because all of the research in the field shows that at the ninth grade level, 14 and 15 years of age, he is not in a position to make a choice for his way of life or life occupation. Whether he takes a college preparatory curriculum in tenth grade or whether he takes business, industrial, or auto mechanics, we ask him to make a choice in a curriculum which I say is identified and related to a way of life. Studies show that the individual is not ready to make this choice. Super and Overstreet took a group of boys to find out their occupational maturity level and how well they were prepared to make the choice at the tenth grade level. They found that these individuals, for all practical purposes, had no concept of what they were going to do. Their recommendation was that at the secondary school level, the school work of these individuals be designed to improve and increase their knowledge with regards to the world of work. In other words, occupations and not occupational training or specialization at this level. These individuals must have the opportunity to explore more fully, on the tenth and eleventh grade levels, before they can commit themselves to an occupational endeavor. On the basis of this research, and on the basis of the complexities of industry, many rapid changes will come about in occupations and technology. As a result of 30 years of teaching on the elementary and all levels, I can not help but draw this one conclusion that we have to be careful about specialization on the early high school level.

There are those who come back and rebell at this statement and they say what is it that we find 16 year old youngsters are leaving school because of for the most part in most states this is the end of compulsory age. If they are leaving at 16 then we should do something for them because this is the last time we will have an opportunity. I challenge that because I think that education is a lifelong process. The individual has to be orientated to the fact that he is going to have to be educated the rest of his lifetime. If he does not get an education up to the twelfth grade and he never enters the school again, the experience that he gets on the secondary school level will be a challenging experience, an interesting experience to those who would be considered as possible drop outs. I do not say that the experiences on the exploratory aspects are to be academic or bookish in any sense of the word. I say the type of activity that is most valuable in developing self insights, self concepts with regard to his likes, dislikes, and attitudes are those experiences in which he is directly involved; concrete experiences that he is involved and are directly related to the world or work in modern industry. In other words, the only way we can develop these concepts is by active participation in activities that are directly related to the world of work. This type of activity will keep a youngster in school because he can see that what he is doing is something that is related to his psychological and sociological desire to become economically independent.

Some of the ingredients that we will be concerned about are probably the ones on-the-job phase of the coop program. The on-the-job phase of the program is not merely a place of employment, it is an extension of a school program. In other words, it is an extension of the educational program that we include as phases of the community. Students ask me, what about the students who want part time jobs? If they want jobs but not on the coop program do not put them on the coop program. Have the agency or the advisor or the counselor within the school put them into a part time job, and let it be known as that. The unfortunate thing is that in many places the school is not large enough to have the placement officer within the school or the person that is responsible for this sort of thing. So the coordinator is the one who places the student on a part time job as well as students on the coop program. There are two types of programs. One is just a work experience and the other is coop program. There are those on the faculty as well as in the community that do not make this differention between the two type programs. This is the danger of the coordinator doing both of the roles. I recognize though that this is what he has to do in many cases. We find in many of the state plans a provision made that students are not to be placed on jobs that require less than 2,000 hours of training. What is the basis for this? This is done so that he does not wind up in a dead end job.

The employer must recognize the fact that this is a training program; that the employer has a responsibility for the student to progress in his work experience on the job. What I mean by progress is that he has different responsibilities to perform regularly.

I believe that coop students should be paid commensurate to their skills; but again it is a matter of trying to keep it so that there is movement in these job processes. The employer then must provide training on the job. With regards to the training plan, I have some training plans that were developed by the Ohio Instruction Materials Laboratory. In the training plan or on the job experience the training plan must be identified. The employer must recognize that these are the processes that must be done on the job and at the same time these are the related information topics that are going to be carried out within the school, In other words, he recognizes that it is a joint educational effort. The employer with these job processes and the student progressing through them as well as in the school, the individual doing the job processes, and in the school he is doing his related instruction. These are identified and the coordinator is responsible to see that the training plan is followed in his employment and the related instruction in school is also carried along.

There is another aspect of the job experience that is the memorandum of agreement. It is not legally binding, but it is important in the memorandum that there is clearly stated that this agreement can be terminated at any time by any party involved. If it is going to be terminated, the party involved should be notified in advance. We want to make sure that the employer does not fire the students and notifies no one about it. If the school terminates the program and pulls the student out, the employer should be notified, and also the parents. We find that a coordinator may pull a student out for the reason that he might be failing his other courses. This does not happen too often. It is interesting to note that when a student goes on the program, the in-school program tends to improve. They take a new insight into their school program. In order to continue this program, they tend to pay a little more attention to their academic work.

A program that is found with an employer that had a coop program who may have been a coop student and graduated from a coop program and now has his own business and has had coop students for ten years, I know that he knows what the program is because of the type of program he is carrying on. This is a second year student in a very well established training agency. To tell you the truth, I will still feel satisfied that things are going along. Would I visit it? Yes. I will probably visit it once or twice a semester just to make sure things are going along smoothly. If it is a beginning program, visit more frequently, and if it is an advance program, less frequently.

Another aspect is the advisory committee. I think that it is important. Advisory committees are -- the use of them -- there are three reasons for it. One is that it does give advice to the program. They are representatives of the community. It can help the program. This is in the literature. What you do not find in the literature are these other two reasons. Number one is that you can take an optimistic individual and put him on the committee, and over a period of years, convert him. This has been done. So, one of the reasons for the advisory committee is for conversion of optimistic individual in the committee to the program. The third, again, you don't see this in print but actually everyone is aware of it. An advisory committee is a big stick to the administration. You can improve your program by the use of the advisory committee.

As far as student selection is concerned, I want this open to all students. When I open it to all students, I must be aware of the fact that I am often times jeopardizing the program unless I am very careful. These students are ambassadors of the program when they get out in the field.

"ORGANIZATION AND ADMINISTRATION OF COOPERATIVE WORK EXPERIENCE PROGRAM

George H. Miller

Today I would like to discuss with you the setting up and administration of a true cooperative education program at colleges and universities. I think that many of my remarks can be transposed and used in the high school situation, junior college, technical school or any other type of educational institution where you want to use this blending of the work experience program. So I hope that you think of this as I make my remarks because they are geared to the college and university levels.

Today I am talking about what I consider a true academic cooperative education program; not a part-time job or placement program or financial aids program. I think that quite a few people, when they think of the work study sequence or the cooperative education, look at it primarily as a financial aids program. I do feel that the cooperative education or work study type program is a wonderful financial aids program, and it helps many students. In terms my own feelings that is a fringe benefit.

The real purpose of the program existence should really be for a higher reason. But I realize that many of you will not agree with me on this. When starting a cooperative education program in a university or college, this is no small task today because there are so few of them. The National Commission for Cooperative Education this spring noted that there were 113 colleges and universities in the U.S. and Canada that had such programs, and I believe that there were four other schools they believed were going into this type of program beginning this fall. One of those will be the University of Florida. This is on the college or university level. What makes it difficult for administrators to set up programs like this is the fact that there are so few people that have been trained for work in this specific field.

The person in charge of any cooperative education program at any college or university must discover for himself the many programs in organization, administration, which face him across the campus, and in the personnel and training offices of these employers with whom he must deal. Most persons, faculty members, representatives of employers, parents, educational administrators, and students think of cooperative education as alternating patterns of work and study; and frequently think of it as being a simple arrangement which takes no staff time or little or very little formal paper work. But to me, a good cooperative education program is not a simple arrangement without records or the necessary means of communication between interested persons. A successful cooperative education program must have the support of the administration of the institution, administrating officers, faculty, top management, and also employer representative on the supervisory level with the employer, guidance people in the high school, college or university, and the general public. To gain the support of these various areas, we or they must know why the cooperative education program exists, or is to be established, and something of the philosophy of cooperative education.

It is necessary in establishing a strong and successful program to make sure that the cooperative education is at all times regarded as a full-time student work when he is away from the school or campus on a training assignment, as well as when he is in full-time study. There are a number of reasons why this is necessary, particularly on the junior college and college level. The student should be considered a member of the school community. Only by considering the participate as a full time student will it be possible to obtain the support of many of the community auxiliary services. It further stabilizes the program by keeping the student attached to the school under its jurisdiction. It shows the employer that the university or college feel the responsibility for the student during this period. I know some schools that have had cooperative programs; and the last day of classes of a particular term the student may bid the administration goodbye, or he may not, and he is gone for several months and comes back. In the meantime, the university or the school really knows not where he is or what he is doing. This is, to me, not the cooperative education program. He is taking off to work a while, but, to me, this is not the cooperative education.

In establishing a cooperative education program, the administration needs to appoint someone to head the program who can communicate with the faculty, who can give guidance to the students, and understand the viewpoints of the employers. This is sort of a three headed operation, but in my opinion, you must have someone who can work in the three directions. My personal belief is that in the planning and selection of a person to head such a program, the decision should be made at least a year in advance of when you are planning to actually put a student into this experience program.

I had a time table which I did not necessarily have to work by, but in setting up a program, I look back at what I should have had.

The director should have at least 300 days prior to "D" Day. Two hundred fifty-five days prior to "D" Day, he should have a planning program well on the way. One hundred ninety-five days he should start a 30 day period of informing the faculty. I know that many schools go into programs like this without ever telling the faculty what is going on. One hundred sixty-five days before starting a program, there should be a program for recruiting employers. You need the employers before you need the students. One hundred five days before "D" Day the signing up for the program by the students. Seventy five days before "D" Day, the interviewing of students should start. Thirty days before "D" Day, you should have completed this interview. Fifteen days before "D" Day, before reporting for the assignment, the student should register for the assignment. Those who have worked in these programs recommend that the director should come from a school that has this type program. It is very difficult to be thrown into a program like this without some experience in this field. I would highly recommend that if you are in an administrative capacity trying to select someone to head such a program, that you get someone with experience. The program should also have supporting assistants from many other areas. If your school is a college or university, and has students on campus, you need counseling and testing services to get the student in the right spot. If he lives on campus, the housing should be worked out so he can come and go as his work periods alternate without losing his housing. The Registrars Office should understand his problems and why his situation is different from a student who is on a coop program. He needs advising when he is off campus or away from school as well as while in school on the campus. He should have services of the library even though he is 2,000 miles away, and many colleges and universities with coop programs makes this available to students through mail service. He should be considered by the student association or any student group as a full time student. As far as the counseling and testing service is concerned, I think that this is very important and should be made use of if your school has such a service.

If this is a school where the coop student is particularly in the minority, and in most schools I would say that he is, he needs to be given special consideration by the Registrars Office because he may need a particular course, when he comes back to school, more urgently than anybody else. In the case where the class section is filled up and only so many can take a course, and the student has been away from school and did not have an opportunity to take the course, he should be given the first chance at it when he returns.

The library situation is not too difficult. The student may not know what he would want to borrow from the library because he does not have a card catalog with him. But, if the facilities are available for him to borrow, it helps him in keeping up with his university studies and his association with the university. I feel that it is well worth the amount of money that is invested in the mail service. One other point that I think is necessary in setting up a cooperative education program is to realize that a strong relations program needs to build around this operation and the public, to which the attention should be directed, include the administrative family of the school, the faculty, students and employers. You need the guidance personnel to support the program as well as the general public. I realize that some of these areas are difficult to track, but I feel that you can do it and it will pay off and gain support in your school community.

Many new faculty members, for instance, are unfamiliar with this work study concept of education. It is still in a minority. You find in many states that it is not very well known in the high school systems. There is still a lot of selling to be done. I think that it is much better if the faculty member knows something about this program before he arrives. Many really do not believe in it and I feel that the Dean, President, and others in administration should at least keep prospective faculty informed of these various programs in their schools in which they will have to deal. You may say, why would the faculty oppose? There are many reasons. Persons on the university level may feel it robs them of prospective graduate students, and their best student assistants. Some of the other arguments that you will find are, it delays the student in entering the work world and getting into the high income brackets.

In many schools the work study concept does not necessarily delay the student in getting in the work world. It is all according to how the schedule goes if the faculty supports this program. In many cases, I think that it will go real well because to me they are the most influential individuals in conveying this information to the student.

Another way of getting this information to the faculty is to have an advisory committee made up of representatives from various areas. On the college level, for instance, a number of the departments name a member of their staff to the work study council and they in turn serve in an advisory capacity to the director or administrator of the program. Two serves to communicate information back and forth so that you will be fed the word on what the faculty thinks of the program, and in turn the faculty should be fed the information about the opportunities the program is offering to the students. If you get this communication channel open, then it is going pretty good.

A final way that I think that you can get closer association with the faculty is to take them out occasionally in the field and let them actually see a student on the job in a trainee position. This usually opens their eyes a little bit and they will be much more receptive to working more closely with the program. I think that many of them have the feeling that it is more of a slave labor operation when you put these young people out in the business industry, but I find that this is not true, in fact, it should not be. If you have an employer treating an employee this way, let us drop that employer and get another one.

One of the reasons that I hate to stress financial income to a student is that he then looks at it as a crutch to lean on until better days come along. He is not looking at it as a professional training program for himself. This is a way to make a few dollars. Then when he is remembered in an uncle's will, he will come in and say, "Well I would like to drop out of the program because I don't need it any more." I have had a number of students come to me with this same story; that some place along the line they got a few hundred dollars from some source or maybe get a scholarship and no longer need the work study program. Usually, if you can talk to them in terms of the experience that they are getting and the way that it is leading them toward their professional goals, most of them will stay in; but by no means do not think that you should require them to. But, I feel that if they went into it in the beginning because of the professional experience involved, then they would not feel in their own minds that they would have to jump out of it once a few dollars come their way.

We have another method of communicating with the students in South Florida and I have noticed that many programs around the country have this method. It is a newsletter. Some states operate them for high school programs, some for college, and some for universities. We send out a newsletter once per month to all students that are on the program; to those off campus as well as those on campus for the length of their study periods. We also send it to keep active members informed so that they will know what is going on. Each newsletter carries a calendar of what the students are supposed to be doing. They are supposed to send in a report to their work study coop office on the tenth of each month. Another way to communicate with the student is through the interview with the coordinator after his return to school. In this way the student coordinator, in advising of any change in policy, finds out how the student really did on the job. Was it really worth while, and this is really a way to find out whether you have any bad employers on your team or not. You can receive information both ways. You receive a lot and you gain a lot. It keeps the student informed and will aslo keep you as administrator of the program informed.

Now as to the employer and shooting in three directions - management, personnel training, and supervisory levels, I think that you really need top managements blessings to really get the program going. But, once you get the blessings, you have to move on down to the training office, or personnel office or whatever the case may be. If the supervising personnel have been given the O.K. by the training office, the communication between the personnel and training officer, supervisor of personnel of a plant or business, things will go along very well. In other words, the supervisor says, here is this trainee that we are putting in your department from "X" school and he is going to be with you for two or three months, things are alright. But every once in a while the word never gets down and you tell the student to show up at a certain building or a certain office on a certain day and he shows up. No one knows why he is there. He asks around, and finally someone calls the training officer and, oh yes, there will be a student to show up here today, give him something to do. A supervisor frequently knows he is going to be there a few months, and that he can put him off in some corner doing something or nothing really. He is satisfied that it does not clutter up his regular working routine. This is not the purpose of the program and if you do not have the aggressive type student in there, he might go and sit in the corner for two or three months, and as it happens, he accomplishes nothing. The program goes down the drain real quick if you have this type of operation. The supervisory level needs to know why the program exists and what they are supposed to do with these students once they arrive. Sometimes the employer doesn't get around to telling; the telling is usually done by the school officials.

I think that in making your sale to the community, there are a number of ways this can be done; this is, reaching the general public. The newspaper is always helpful. I know a number of schools that send students out during a term of the training program and in the high school where they are spending a half day in class and a half day with the employer, the school sends this information to the newspaper, and it is used in the rather large community. You may not feel that this is important in a community of 20,000 people. I know newspapers in communities this size will run this kind of story. At least 15 or 20 students are going into this type of program or another. I know that when we send it out at the university, and I won't say that it is used all of the time, it is used most of the time, by the larger newspapers.

We also send out what we call little hometowners. These are mimeographed releases of two or three paragraphs. If the student is from that community where we are going to send that paper, we just write his name into it. His parents' names go into another slot on the form and the newspaper can go ahead and use it as a local news story. This brings attention to the program. People will talk about it and you may have other students to inquire about it; parents talk about it, and it is quite helpful for the amount of effort that is put into it.

One of the other things that get a little bit confused in the minds of students is terminology. Maybe I have not helped any here today, because in referring to work study and cooperative education; to many people this is all one term. To others, work study is one thing and cooperative education is another. I do not think that it is important what you call your program as long as you let the people know what the philosophy of the program is and really what your goals are. I feel that up until three years ago, at least on the college or university level, most of these experience programs were known as work study cooperative education programs. About three years ago, the U.S. Office of Education entered the picture through the education bill of that year and in the Economic Opportunity Act. Work study in many areas, became another thing. It became a short period of on-campus type work. It was not really getting a student for fruitful experience toward his goal in life. Really we are getting away from, what many people have referred to as, work study cooperative education programs. About two or three years ago you will find that a lot of the colleges and universities which had these programs at that time, about 75 or 80, dropped the word work study. We dropped it at the University of South Florida too. We have another office, the work study office. It handles the EOA Funds and places the students on the part time, 15 hours per week jobs on campus. But, it is not a part of what we not call cooperative education.

Another way of promoting a program through the community is by talks to civic and other club groups. These people will go out and talk about it, in most cases to the fathers in the family circle, and this feeds the information to the students and I think it builds some prestige for this type of program. The program that gets going is really thrown at you as an administrator without enough planning time and frequently you can run into a lot of trouble. I feel that in most cases, the planning time should be stretched out. When you run into a lot of trouble, however, the only thing that one can do is work toward correcting it. In the conclusion of these remarks, I would like to say that cooperative education programs have much to offer; they are difficult to organize and administer; whether the program is on an elective or optional basis within the school, and only a minority of the students are on the program. It has become quite difficult to administer. Where the entire school or a large area of the school is on this type program, it is easier to administer and actually if I had my choice in setting up a program, I would say that everybody is going to do it. Yet when you look at it, sometime you find a student that is in there or in the school that should not do it. But, I know that you are dealing with the hundred per cent rather than dealing with the ten per cent. But, to find ways to stimulate more students to use the work study or the cooperative education philosophy and to further their education insights, I think it is great. Currently, I have no figures as to how many high school students are on work study programs in this country, but I do know that more than 70,000 college and university students are on this type of program, yet it is small in comparison to our overall enrollment. I feel that one of the greatest challenges that our schools have is to get more students in this type of program that will lead them toward their goal in life. I think that work study cooperative education has a most worthy goal.

RECOMMENDED PRACTICES FOR COOPERATIVE WORK EXPERIENCE PROGRAMS

George H. Miller

Cooperative Education on the College and University Level

Cooperative education, as we think of it in the fields of university cooperatives, started in 1906 at the University of Cincinnati. Professor Herman Schneider, at that time a young professor, tells that there was some value in blending theory and practice. In that year, he sent a class of his, which numbered 26, out to work in the various industries in Cincinnati and to him this was very successful. Though he had quite a battle on his hand, and on his own campus in convincing other professors that this produced a better engineer, his plan eventually prevailed and Cincinnati became one of the largest coop universities in the country. Growth in coop education, at this time, was comparatively slow. In 1909 Georgia Tech adopted this form of education. A year or two later Drexal Institute at Philadelphia started such a plan. Some of the other schools also started coop plans during the next 20 years. By the mid twenties, there were Northeastern University at Boston; Antioch University, Yellow Springs, Ohio; University of Detroit and several others.

Perhaps coop education in best known in the field of engineering because this is where it started. Within recent years, it has had rapid growth in the non-technical fields. In 1960, there were approximately 50 cooperative education programs on the university and college levels. In 1964, there were 70. The most recent figures released by the National Commission of Cooperative Education list 113 and they expect at least four more to join this type of program this coming September. The total number of students in these programs is approximately 70,000. This is really not a large number when you look at the total enrollment for colleges and universities. Yet, in about ten years in cooperative education, this has jumped to 70,000 from 30,000. So actually cooperative education is having a rather rapid growth on the university and college level.

Unfortunately, there has been very little information put in print on cooperative education. It has been difficult to find very much to read on cooperative education on the college level. In 1957, the schools began to inquire about cooperative education and found themselves running into a blank wall. So in 1957, the Kettering Foundation sponsored a study that terminated in a book called "Work Study College Programs". This has been a guideline to some degree toward cooperative education since that time. Really there needs to be something done every year if you are going to keep up with facts and figures of a growing program or growing philosophy of education.

In 1961, when I started the planning of a program at the University of South Florida, I had very little to go on except the book that was the result of this study. In 1962 the administration of the university began to ask questions. I had to justify budgets. Even in gathering information on my visit to schools, people were "foggy" as to what costs were for coop education. It was rather difficult to pin down. In 1962 I figured that I had to find this information since no one else had done so previously. I guess you could say that I have always been a surveyor. I constructed a survey instrument and sent it out to some 50 people who, at that time, were in charge of their programs at various colleges and universities. Of the 50, I received about 40 replies and this provided me with quite a bit of help. I had, for instance, some idea of the going rates of pay; how much secretarial help I needed; a full-time load for a coordinator. In 1964, we began to prepare another budget and I had to justify these budgets again. I had to do it again last year. So I have been running a little survey for my benefit. There have been three additions now - 1962, 1964, and 1966. Apparently a lot of people need this information. It has been quite difficult to get people to respond and give pertinent information on their programs. They are reluctant to do this. But, I have pulled together what I consider are some reasonable figures and guidelines. These are college - university level programs. In 1962, the average coordinator load was 167 students. In 1964, this number dropped to 145. In 1966 it was up to 149, and the average is now down to 143. This means that the coordinator is concerned with between 70 and 75 students on campus at the same time. If you have a good program and keep the necessary records, this is still a very heavy load.

In the college and university programs, when Professor Schneider set up his program at the University of Cincinnati, it was his policy to visit his students at least once a week on the job. Since coop has expanded on the college level, this has become almost impossible. The communities where the schools are located could not absorb all these students in a trainee program. How you will find coop students spread throughout the world. Therefore, the cost has been prohibitive in visiting the students once a week or even once a term.

At the University of South Florida, we attempt to visit our students once a term if possible. In 1952, the survey showed this was 1+ per term and in 1964 it was still 1+. But in 1966 this figured to be 3/4 per term. Travel cost, expansion of the program, increased distance from the campus mave meant that these visitations became less and it could also account for the fact that many of these schools with established programs have felt that these visits were unnecessary. This is true. Once you have acquired a working relationship with an employer, it is good to visit with that employer, but not necessarily every term. If the same students are going back on an alternating work-study pattern and there are no problems, they do not necessarily have to be visited every term. If you have a lot of new students going to work with an employer, I think visitation is good. It lets the students know that you are interested in them and their program and how things are going for them.

It was interesting to find out the number of miles coordinators for college and university programs travel. In 1962 the average number of miles traveled was 7,500 a year. In 1964, it was 5,300, and in 1966, it was 5,988. This is the average mileage traveled by a coordinator making his visitations. I am sure that most good programs have several thousand miles of travel in their budgets. When a program is started it is necessary to know the amounts for all salaries. In 1962, the average salary for persons directing coop programs on the college level was $10,985, with a minimum of $7,900, and a maximum of $16,000. In 1964, the average was $11,400; the maximum was $16,000; the minimum was $7,000. In 1966, the average was $13,058, and the maximum was $18,666; the minimum, $9,360. In programs with an administrator and an assistant, the assistants received: in 1962, an average of $7,495, the maximum salary was $11,000, and the minimum was $4,300; in 1964, the average was $9,147, the maximum was $12,000, the minimum was $6,000; in 1966, it was $10,338, maximum $16,000 and minimum $6,500. Actually, in terms of pay scales for coordinators, these have had a much more rapid upward movement than pay scales for administrators.

Persons going into cooperative education are drawn from many sources. Some of them are former teachers, some are administrators in other areas of a college or university program, and many of them come out of the high school DCT type programs. Some also come out of business and industry. There has been no formal training program on the college level to produce these people. Therefore, schools setting up these type programs have reached in many directions. Those who come from the teaching field and sometimes from administration areas are interested in whether or not this is an academic appointment. Our survey showed that in 1962, there were 87% on academic appointment, 70% in 1964, and 78% in 1966. Approximately three fourths of the cooperative education programs employ persons on academic appointment.

Another area of controversy is the requirement of having students sign an agreement. Some students sign an agreement form with the employers, or sign an agreement form with the school or with both. In 1964, 10% of the schools required the students to sign contracts with the employer. In 1966 this dropped to 4%. The percentage of schools requiring students to sign a contract with the school was 12% in 1964 and 25% in 1966. In 1964, 5% of the schools required that students sign agreements on both ends of the line. In 1966, there were none.

When some of the programs initially started out, the policy was to have the employer select the student and to send him to school. Many of the students were on scholarships so that responsibility for the student was more relegated to the employer. These coop programs have grown in the colleges and universities. It has gotten beyond the mere scholarship program for some companies. The trend now is that the responsibility for the student is left more to the school and to the program. What do you do with the student who breaks an agreement? In many cases he may be a minor. Roughly, one-third of the schools have a penalty for breaking the agreement or contract, e.g. the penalty at the University of South Florida is to not allow him to return to the campus as a full time student during the next period.

Up until 1950, there were very few schools who had looked upon the training period or work period as being associated with actually being a student. In the 1950's he began to be considered as being a student because the Korean War, during this period, was a means of providing draft deferment which assured uninterrupted training. In many instances, the draft board provided deferment beyond the regular four year period. Really, we have never had any major problems with selective service. One other area that needs attention at the policy making stage is the matter of registration fees. If this man is to be classified as a student, is he to be registered free or is he to be charged? Many colleges and universities that formerly had not made any charges for the coop student up to the 1960's, are now moving toward charging student fees during the work period. The coop student gets a much better buy than anyone else, when you consider the money he puts in for the services he gets in return. The percentage of students that were required to pay registration fees during the training period were 31% in 1964, 44% in 1966. I am sure that today it has passed the 50% mark. In 1964 the average fee was $29.00 and in 1966 the average fee was $35.00. The maximum fee in 1966 was $110, and the minimum was $1.50. In registering full time students, there are other factors besides the selective service to consider. The Veterans Administration (VA) has some stipulations regarding the G.I. Bill.

Another problem area is the variation in test facilities. Some coop programs have no testing facilities at all. Some have their own facilities directly in their own coop area. Others use test facilities at the school. At the University of South Florida, we have what is called the developmental center which includes testing of various types. After the coordinator interviews a student and finds a test necessary, he directs the student to the developmental center where the test is scheduled. The developmental center may add other tests to our tests. The Strong test is the one usually used. Some coordinators always prefer the Strong test. The coop program actually pays $1.00 per student to the developmental center, for this testing program.

Another area of concern is that of advising the student. In most schools, the coordinator is not the advisor for the academic program. Quite frequently there has to be some communication with an academic advisor. Survey figures show that in 1964 64% of the schools had special advisory groups for coop students. In 1966, there were only 54% with such groups. At South Florida we found that special advisory groups for the coop student was a necessity. It was difficult to inform the entire faculty about the coop program of each individual student. Without this special advisory group at South Florida, we would have a very difficult problem. The coop student has to be rather selective in order to be sure he gets the subjects he needs at the right time.

Among students who stay with their employer at graduation, Survey figures indicate that in 1964, 50% remained, and in 1966 it was 58%. The maximum in 1966, as reported by one school, was 90% while at another it was reported to be 23%. In many instances, this depends on the worth of the program. The percentage of schools that bring employers to the campus while planning programs was found to be 65%.

Schools giving academic credit, in some form, for the training period was 16% in 1964 and 21% in 1966 this indicates that there is an increase in the number of schools providing credit while the student is away on the training program. In general, the student may be required to do a study. These may be fuzzy figures because of the different variations in approaches schools have to the program. How many schools provide some method whereby the students can earn credit? In most instances it is not actually planned that he does, but can he if he really wants to earn credit. These figures ran to 75% both in 1964 and 1966. Correspondence courses have been made available, as well as independent study courses. During the past five or six years, there have been many trends in cooperative education. These tend to exert a stabilizing effect for the cooperative programs. Perhaps 99% of the students in these programs are benefiting by the experience. The school is taking more of an interest in evaluating this experience.

Many businesses and industries, 15 or 20 years ago, would take the student and just place him on a job wherever a vacancy occrred with the company or business. Today the student is put into a more formal training program. The training program has a schedule which advances the student as he comes back on following training periods. In the last five or six years there has been more opportunity, as the program became more formalized, for the student to earn credit while in a training program. It now moves the student ahead. Ten years ago when the question, how long did it take a student to go through a coop program at college level, was asked, the answer was five to six years. Because there was no credit being earned in any manner while the student was out on his training period, he was more or less marking time and the more training periods inserted, the longer this period became from the time he entered as a freshman until he received a degree. By awarding credit for the training period, and by shortening the time, many of them are now less than five years in length. As I pointed out, in South Florida, for everyone except the engineer, it is really three years and eleven months.

In term of communication with coop students; fifteen years or so ago, students left the campus and no one communicated or saw him until he was back in school at the end of the work period. Now since the programs are more formalized, there is more communication with students. Some of these methods of communication are probably no more than letters. When something is requested or information is needed, letters and post cards are used. As far as I know, when the University of South Florida started its newsletters, about 1952, there was no other coop newsletter in existence at that time.

Several people wrote to me within a year or two after we started the newsletter asking what the costs were, and how often do you issue them. I would always keep a budget on this so I could tell what the costs were per year, etc. I began to see other newsletters spring up all over the country. There are quite a few that have their own newsletters and quite a few employers have their newsletters for the students. There are quite a few employers around the country that have several hundred coop students. Ford Motor Company is the largest. It has about 600 coop students employed at all times. But, there are several employers that have a hundred students.

Another means of communication is the campus newspaper. I feel that the coop newsletter is a good method of keeping the student attached to the campus and in communication with his peers. I think a mailed subscription of the campus newspaper is quite valuable. It keeps him in touch as a student even though he is away. It gives him a better feeling. When he returns to the campus he will know about events that have been going on. The students get far more out of it by being a participant; the feeling of being with other students.

If some form of fast communication is needed, there is always the telephone and the telegram. If something in print is needed for reference, the telegram is the best method. The telephone is costly. I often wondered in South Florida how to reduce this expense and I do not have a good method.

If one thinks of setting up an overall budget for a coop program, it is difficult to pick a certain pattern or to use information you get on surveys from schools. I think that in every school system you must fit salaries into that school's operating budget. It can not be too low or too high. But, when one considers the non-salary aspects of the budget, then I think I did find a pattern in the survey. About 60% of the budget was allocated to travel and about a third was used for communication. At some schools, the communication budget is much more than a third. This is for phone calls, postage, telegrams and things like this. If you are going to operate a good program, I think that travel will take at least 35 to 50 percent of the budget. Thirty percent will go for communication purposes, such as newsletters, and other items that were mentioned. If this is not done, then you are going to get out of touch with both the employee and student. These budget allocations will permit the coordinator to travel to the job location and take care of problems that arise.

I have tried to cover most of the things, that to me, have given most of the headaches in the past which involved policy decisions. I will say that if you are working with a program or starting a program, of course you first need the support of your administration. But, even beyond that you need something to go into the policy statements of the institution which will support your program. If you can get the things into this policy statement that will support your program, it is sure to be helpful at some later time. You must protect your program. If the policy statement can be written into the school's constitution, by-laws or whatever it happens to be, you will find that it is a lot better than operating by just a memo on file or on some verbal statement made by someone. I have related to you the things that concern the director and how we operate the program at the University of South Florida.

CURRENT DEVELOPMENTS AND TRENDS IN COOPERATIVE WORK EXPERIENCE PROGRAMS RELATING TO TRADE AND INDUSTRIAL EDUCATION

Dr. E. Max Eddy

In many ways, I feel at a distinct disadvantage not knowing precisely what has gone on in this workshop during the past two weeks. I feel that if I should have handled certain other topics listed in your program, I might well have lapped over into the subject of "developments and trends." Knowing that the hazard of repetition exists, I can only ask for your forebearance in case of minor infractions and your kind hint or suggestion should the situation become grossly overbearing.

A second problem that I have faced in my preparation relates to the emphasis that is desirable to put on the term "Trade and Industrial Education." Should I consider it a restrictive term limited to the preparation of vocational trade and technical teachers or should I consider it a more generic term in light of the myriad of objectives and purposes that T and I departments currently embrace. My judgment told me that emphasis should be placed on the former while the latter case could by no justification be ignored. You will agree, I'm sure, that while many of the developments are not limited to T and I (in the restricted sense), they do contribute to the same over-riding objective, that of producing a more adequately intelligent and competent industrial work force. At the same time, it seems proper and appropriate to give attention to trends and developments in cooperative vocational education in the local high school setting.

The Setting

In order to appreciate the totality of developments and trends in cooperative education in the collegiate T and I setting, first we have to assess the involvements of Trade and Industrial Education departments. Why do they exist; what kinds of products are they intent on producing?

We're always surprised when we really analyze the situation. Here is an array (not exhaustive, I presume) of the products emerging from departments of trade and industrial education.

- Vocational-trade teachers
- Technology teachers
- Industrial arts teachers
- Cooperative education coordinators
- "Instructional technicians" (2-year product)

- Training personnel for industry and business
- Industrial supervisors
- Craftsmen for industry
- Technicians ("X" varieties, 2-year product)
- Technologists ("X" varieties, 4-year product)
- Local administrators of industrial vocational, and/or technical education
- Local supervisors and coordinators of industrial, vocational and/or technical education
- State supervisory personnel
- Teacher educators
- Researchers

Using these general categories, I have limited my listing to 15--if I should have wanted to stretch the roster by two, probably could have! I would also want to go farther to maintain that somewhere in this fair land, there is a special curriculum designed to prepare almost every category of personnel enumerated and in each there may well be found an element of cooperative education in one of its manifestations.

Now I must go farther to point out that Trade and Industrial education departments, in order to prepare the diverse personnel listed above offer and administer a wide variety of certificates and/or degree programs.

- Non-degree certificate program
    - 1-year (or less certificate program)
    - 2-year certificate program
- Associate degree program
- Bachelor's degree programs
- Masters degree programs
- Educational specialist degree programs
- Ph.D. or Ed.D. degree programs

Once again it is not especially surprising that the shape and form of cooperative endeavor are many. It's even less surprising when we consider the many and diverse functions or goals that the effort may be expected to achieve, singly or in combination. From my study of college cooperative efforts made in preparation for this session I have found so-called cooperative elements being used as follows:

*Occupational competency
*Understanding of industry
*Integrate academic and practical
*Up-date - upgrade teachers
*Transition from school to work
*Increase teacher supply
*Assist needy students
*Recruit prospective teachers
*Better prepared graduate

-Better placement of graduates
-Experience in reality
-Supplement academic learning
-Initiation to work in best setting
-Contact with practicing professionals
-Maintain student interest

Considering the many products of collegiate departments of Trade and Industrial Education, the various degrees and levels of degrees offered, the myriad of cooperative programs each designed to contribute to the professional development of a certain type of person in a particular way, and diversity of function assigned or attributed to the cooperative effort, it becomes obvious that we cannot expect to cover and discuss in depth all of the developments and trends in cooperative education. Thus, I shall use the lecturer's prerogative and select those movements which I consider to be major concern and significance to us as industrial educators at this particular time.

B.S. Degree Vocational Trade Teachers

With the increased interest, emphasis, and support for vocational trade education in recent years, the shortage of qualified teachers has become critical to say the least. Programs of trade education across the country has ceased to operate because a teacher has moved on to greener pastures and an acceptable replacement could not be found. Likewise, planned new programs have failed to get off the ground because the search produced no qualified candidate. Thus, in recent years (particularly now) new thrusts have been made to alleviate this distressing situation. In many instances, cooperative programs have been instituted in order to provide the younger college student an opportunity to develop, as a part of his collegiate program, the degree of occupational competency necessary for certification for and performance as a vocational trade teacher.

In order to bring you up to date, information on the status of cooperative programs, I polled some fifty universities and colleges which profess to be training trade and industrial teachers. I received responses from half of them (25). Of those responding, one-half of them (12) are either operating or in the process of developing some form of cooperative program. While a variety of names are used to identify the efforts, the elements and purposes are basically the same. During the past two weeks, you have been exposed to the general characteristics of typical operations. I won't attempt to rehash them today. It is important, however, to recognize trends and the effects the emergence of the cooperative approach as it becomes a truly significant mode of inducting qualified trade teachers. Here are some effects as I see them:

. . Since many cooperative programs require that the trainee demonstrate his competency, more valid trade tests and performance routines will be developed.

. . Assuming that an individual cannot learn all of his trade, a careful assessment of the most important elements will be made and depth experiences provided in these areas. Since all of the trade isn't taught in the trade class either, emphasized cooperative experiences will need to jibe with that which the teacher is expected to transmit. This could well bring about some long overdue evaluation of trade course content.

. . Persons inducted into trade teaching will have recent, more up-to-date experiences and training as their teaching back-up.

. . Many more vocational trade teachers will be college graduates with a professional training comparable to teachers of academic subjects. The "old-timers" who came into the field on the basis of trade competency and experience plus minimal pre-service or in service training may cease to dominate the field--for good or ill.

. . Vocational trade teachers will become a younger set on the average.

. . More and more colleges will give more and more credit toward degrees for competencies so developed. Right now the range seems to be from 6 semester to 40 semester hours with about 12 semester hours being the mode. Our department now allows 36 hours out of a 143 hour degree requirement.

. . Itinerant teacher and in-service training of the type prevalent in the past may become less dominate activity of trade and industrial education departments. More efforts may be devoted to collegiate instruction on campus, graduate instruction, instructional aids, and research. At the same time, new emphasis may be placed on summer work shops, seminars, trade competency evaluation, supervision and coordination of cooperative and internship programs and the like.

. . Vocational trade teaching will be a much more respectable position in the local school setting and vocational teachers will exert greater influence in molding the role of education and professional attitudes in the local school setting. In many cases, the vocational teacher is of little influence in academic and professional circles because he is not accepted by his teaching peers as one of their kind!

. . The cooperatively trained teaching corp will become a real threat to the group now involved in trade teaching, most of whom have had years of trade experience in industry plus apprenticeship training prior to induction into teaching. In years to come, the "old guard", the "4-finger clan", the "busted-knuckle club" (as the old-timers have been dubbed by certain sources) may possibly find themselves in a minority in their schools and in professional organizations.

. . The mean quality of teaching activity should improve due to the more complete education and professional training of the degree teacher.

. . More vocational teachers will pursue graduate studies and thus qualify for administrative and supervisory positions. It should become less likely that non-vocational education personnel (most of whom are grossly unqualified to provide adequate leadership) will continue to step into the driver's seat in so many instances.

. . The old adage "you can't teach what you don't know" will continue to be accepted but with an added clause, "but you can't teach what you do know, if you don't know how to teach."

The points that I have just been making are emerging trends, developments in progress, and projection of effect of the cooperative plan of pre-service, collegiate preparation for T and I teachers. Most of them I would assess as being "movement positive." At the same time, optimism wouldn't be optimism if there wasn't such a thing as doubt or negatism. Thus, I think that we're faced with a series of questions for which we must find answers--but soon. I'll cite but two.

- To what extent can we afford to barter depth of trade experience and competency for professional, collegiate training? This is inherent, I believe.

- Should any person who can maintain himself in cooperative employment for a certain period of time and subsequently pass a trade test and performance become eligible for a teaching certificate. Can we afford to give up the selectivity which long-term, independent industrial employment provides?

Cooperative training as a method of developing trade competencies is here, is growing, and is, perhaps, a permanent alternative. In view of the shortages which exists, it will be given a real try in the years ahead. In the process, it must be observed carefully, tested frequently, improved as we gain new knowledge and insights, and operated always according to the best principles--as you have previously discussed them here.

In-Service Uses of Cooperative Education

Forms of cooperative education are coming to the front in the realm of in-service opportunity for vocational teachers. Most of us should be pleased by this development since it poses an alternative to a dilemma we've faced for years--how should the teacher best use summer vacation months.

During summer months, vocational teachers have had to choose from these possibilities if he would improve himself as a teacher:

1. He could get a job in industry and earn a living, brush up on skills, keep up with developments and contacts in his crafts, and learn new skill or applications which he might inject into his teaching plan.

2. He could enroll in summer school and pursue an undergraduate degree program.

3. He could enroll in T and I graduate level courses offered at the teacher training institution, if such were allowable by institutional policy.

4. He could pursue an advanced degree.

If he chooses to go into industry, he may well be a better teacher the following year. At the same time, he's made no progress toward the degree he needs for permanent certification, he may not progress to the next increment in the salary schedule, and he may find, that since he didn't earn "X" number of semester hours of credit within the prescribed time, his teaching certificate is in jeopardy.

Should he go to summer school, to complete a B. S. or M. S. degree, he misses income, falls behind and loses contact in his trade but maintains his teaching credential and moves up in the salary schedule.

If he goes to school to take graduate courses, without having completed a B.S. degree (which is the only alternate some have) often along with M.S. and doctoral candidates, he's at a distinct competitive disadvantage. But again, he's safe so far as increments and certification are concerned, while again falling behind in occupational contacts.

Graduate programs in the past have been notorious for leaving out provisions for continued development on the practical side of life.

Some newer innovations involving cooperative approaches and industrial internship are breading down the dicotomy. A trade teacher may now earn college credit (of varying amounts), which will apply to the degree he's pursuing in many cases, by enrolling in a cooperative or internship program during summer months at either undergraduate or graduate levels, as fits his status. This way, he maintains himself abreast with his craft and progresses toward his professional goals.

Cooperative Education and Evaluation of Prior Occupational Experience

Numerous schools throughout the country have arrangements of long standing which provide for granting college credit for demonstrated occupational competency. In most cases credit so earned may be counted toward degree requirement, from 9 to 40 semester hours depending upon institutional policy.

In most cases, the student is required to verify his occupational experience, take written examinations over his trade, complete a performance examination with competent tradesmen observing, and face an oral examination by competent tradesmen and college staff members. On completing this procedure, a special committee decides how much credit should be granted, within institutional limits, relating to the degree of competency demonstrated.

In some institutions, the practice has been to grant only the maximum credit allowed or none, maintaining that the person is competent or he isn't. Certain other institutions follow the policy of granting credit up to the maximum in proportion to the degree of competency demonstrated--and then outlining a series of technical and shop courses to round out the individual and his degree credit requirement in the occupational credit area.

A plan that is currently getting some favorable consideration involves using the testing procedure to ascertain not only the degree of competency for which credit will be granted, but to determine as well the area of the occupation in which the candidate is not competent. The "blind spots" then are corrected by using the cooperative program under careful supervision and placement. In this way, the candidate increases this job experience, earns all credit allowable toward his degree, and provides suitable evidence of his mastery of the substance of the occupation he will teach.

This plan is especially useful in those occupational areas which do not relate to the kind of laboratories and shops usually controlled by or available to department of trade and industrial education.

Technician Training

Several technician training programs about the country are now utilizing cooperative methods. In these cases, credit is usually minimal, and general or personal rather than technical outcomes are expected. For example, one such program holds as its purposes:

- To integrate practical experiences with technical learnings to insure job readiness on graduation.
- To provide local industries an opportunity to become acquainted with technicians in training who are potential future employees.
- To provide financial assistance to technician-in-training.

It claims the following benefits for the student participant:

- Becomes acquainted with and works with technical problems in an industrial environment.
- Makes his academic work more meaningful. He observes the application of the fundamental principles that he studies.
- Learns some of the many functions that the technician performs in industry.
- Learns to work with people.
- Adjusts himself to industrial employment. The student makes a smooth transition from academic pursuits to practice.
- Acquires industrial experience in his chosen field thus making him more valuable to an employer upon graduation.
- Earns for university expenses. This eases the financial burden of acquiring an education.

The model in this case is becoming well established. The trend is definitely likely to emerge vigorously in the years ahead. Both school and industry like it.

Technology Teacher Preparation

I'm sure that all of us are familiar with the fact that heated discussions continue to be held regarding who is qualified to teach in technician training programs. Some feel that practical-minded, experienced engineers are the only feasible source of good teachers. However, many hold that this source leaves us sadly short of the quantity of technical teachers needed now--to say nothing of expected growth requirements of the next decade. Others feel that teachers should be technicians who have gained practical experience, additional technical subject matter depth, a broader general education back-up, and specialized training in the pedagogy to teaching.

Without taking sides in the controversy, let me judge that the future will require that technical teachers will need to be recruited from all possible acceptable sources--and that a goodly number, if not the majority will have previously been trained as technicians. Further, let me hazard that an increasing number of schools will do as we have already done--design B.S. programs along-side technician training programs in order to recruit the associate degree graduates into a teacher preparation program while he is at hand and available!

In so doing there is often one void which cannot be overlooked, that of actual experience in the practical application of the technical skills and knowledge in the typical work setting and the total benefits that accrue from such exposure to real life. Thus, its cooperative education to the rescue again. Our technology teaching option (B.S. degree), like several others about the country, requires that each candidate gain a fair dosage of work experience in his technical specialty. The minimum time sequence is two semesters for which 12 semester hours of credit is granted. Should an individual have acceptable previous experience, credit is granted. Should an individual have acceptable previous experience, credit could be granted under title of "Occupational Competency Evaluation." This is an attempt to provide the minimal exposure to "real life" prior to certification for teaching in technician training programs.

Industrial Supervision and Industrial Training

Although there is some question regarding the authenticity of T and I departments being engaged in pre-service training of industrial supervisor and training personnel, the fact is also clear that persons trained for such positions at the B.S. level are in high demand in industry, business and government today.

Several institutions operating degree options for the training of such personnel are utilizing cooperative education. Usually, it is taken as an elective subject with better students being encouraged to participate.

It is interesting to note that some major companies who, in years past, were interested in co-oping only engineers have expanded their horizons considerably--and a few now specifically indicate that they are interested in co-oping "industrial education" students.

You may be interested in one development at my school in this regard. Whereas we used to have a "training in industry" and an "industrial supervision" option in our Department of Industrial Education, now we have a new and separate Department of Industrial Supervision. This new department offers a B.S. degree and can transfer credit from the Associate degree programs rather handily.

So when several of the major airlines approached the Department of Aviation Technology (which offers an associate degree in Aviation Maintenance) about its problem of developing maintenance supervisors, these two departments go together. They worked out a special program whereby a student could complete an associate degree in Aviation Maintenance, transfer to the Department of Industrial Supervision (supervision major), coop with the airlines for two semesters or more, then on completion of the B.S. degree expect to be employed as a maintenance supervisor. All parties involved have much hope and confidence in the mutual usefulness of this program.

Internships

All that's going on in cooperative education does not involve industrial experience per se. For certain individuals co-oping in the practical educational setting may be most profitable. When this form of coop is activated, it is often called a "professional internship."

Some internship programs (don't confuse with practice teaching) operate at the undergraduate level. I trust that you've heard about the Wayne State University professional internship program. I note that both Dr. Bateman and Bill Wolansky have appeared on this program. Theirs is a most commendable approach.

In similar fashion, our school is proposing an undergraduate program similar to the Wayne State program for graduate technicians in order to provide them the broadest possible professional experience while completing a technology teaching option of our B. S. program.

Central Michigan University, Mt. Pleasant, is involved in a "partnership vocational education project" making extensive use of cooperative and internship elements for preparation of vocational-technical teachers under a Ford Foundation support.

Rutger's "Cooperative Occupational Pre-teaching Experience" is another interesting program which provides a scholarship which covers books and tuition for participants.

Internship is a practice which is becoming more popular each year in the preparation and certification of supervisory and administrative personnel. Thus this form of cooperative education becomes an element of graduate studies, especially in Master's and Educational Specialists programs. The principle idea in this case is to provide the future supervisor or administrator an opportunity to gain valuable experience in the tasks of his future job under the tutelage of a skill practioneer under ordinary conditions of operation. Many schools now have graduate courses that provide credit for such internship and some degree programs, which have been designed to meet a state certification plan, require such courses.

Supervised Work Experience

This particular program has been utilized for a long period of time in the preparation of industrial arts teachers. As the major objective of industrial arts moves toward the interpretation of industry through a sampling of typical industrial process and experiences in common industrial materials and products, this sort of activity becomes increasingly pertinent. Many teacher educators who a few years ago were not especially concerned about direct contact with industry on part of future teachers are now strong proponents of supervised work experience. In my opinion, the newer emerging concepts of industrial arts education clearly suggest the validity of supervised work experience for all industrial arts teachers in training.

In some instances, Supervised Work Experience is offered as a summer vacation opportunity, only. In other cases, registration on a part-time or full-time basis during regular school year is encouraged or acceptable. Some institutions require such experience; others only encourage it. Some provide credit for the activity; others do not.

The typical program operates during the summer. The student indicates his intent to enroll in the course and makes prior arrangements for his employment. He proposes his situation to a faculty committee. They approve or disapprove the situation on the basis of their established criteria. If approved, the student confirms his employment when he goes on the job and submits his work schedule. He submits weekly reports to the department as required. The coordinator of the program makes periodic supervisory visits to the work station. At the end of the work session, the student submits final reports. The departmental committee and coordinator finally appraise the total experience to determine whether or not course requirements have been met.

Evening School Programs

The evening school programs in our larger cities are certainly making a significant contribution to the society. They are providing, among other things, an opportunity for many persons to complete their high school education and receive a high school diploma. All of us are familiar with the factors which motivate people to complete this level of education in modern times.

Certain schools have come to the conclusion that as they assist individuals to achieve their educational goals (and since these relate closely to occupational goals), they should also be helping them upgrade themselves vocationally. In similar view, they reason that since high school credit is available for vocational subjects in the regular high school program and the student chooses the evening school by economic necessity, that cooperative vocational education is tailor-made to serve such students.

Thus, several schools have initiated a cooperative vocational education program in their evening school. The results have been most gratifying to all parties concerned--its potential deserves more consideration in the future.

Special Needs Groups

Meeting the needs of high school pupils having special requirements or handicaps is a problem of foremost priority at this time in history. Preparing such pupils for suitable work, in order that they may become totally or partially independent economically, is a real challenge of our times. Many special programs are currently being proposed, piloted, and operated. In almost every case, some form of work experience activity or cooperative plan has been integrated into the model.

In fact, for a period of 3 years, I was personally involved in a demonstration project which was designed to prepare slow-learners and mentally retarded students for gainful employment in cooperation with the Evansville, Indiana schools. The project was supported by the National Institute of Mental Health. The thrust here was to mold the well-established model for high school cooperative vocational education into a format suitable for a population for which it wasn't originally designed. I'd like to review with you some results of this particular experience.

1. With only minor adjustments, the cooperative work-study method (which has long been a popular vocational education approach) was an effective instructional approach for retarded

or slow learning students. The needed changes related to scaling down the job level to that which was appropriate for the individuals concerned. Non-complex, service jobs and simple production and distributive assignments offered a breadth of training opportunity for such students.

2. Since most training jobs were relatively simple to perform and did not require the application of technical information, emphasis in "related" instruction was placed upon content designed to assist the student adjust to and become acceptable in the competitive work setting. This material had general application to the total group of students and was handled, in the main, in group sessions. The degree to which the students responded to this effort, (supplemented as it was by the work-earning experience) was most marked and gratifying. Teachers, coordinators, employers, and others attest to the general improvement in cleanliness, grooming, dress, courtesy, attitude and bearing in the group in general.

3. Earning money and financial independence were prime motivation for teenage retardates. They generally responded well to efforts to assist them in using earning effectively. Although encouragement to budget income was not generally acceptable, systematic savings for a definite purpose received favorable consideration. Cars, clothes, food, and entertainment claimed heavily on their earnings.

4. With adequate publicity, personal contacts, and understanding, employers respond well to the opportunity to become a partner in the education and vocational training of retarded and slow-learning youth. Within six weeks after the beginning of program operation 69 students were employed for training purposes in Evansville. After two years of operation, 125 such students were working at training jobs, with employment opportunities available for even more!

5. Interest in and the obvious success and contribution of the demonstration program has served as a catalyst for additional improvement in the educational offerings for retarded youth. In fact, there has been a completely revised 4-year program devised for low ability youth in the Evansville schools. The revision includes a 2-year sequence of practical laboratory-shop instruction (Practical Vocational Experience), the purpose of which is to prepare students for entering the cooperative work-study program, plus the cooperative work-study program as demonstrated.

6. The Evansville program has served as an inspiration and as a model for several other school districts in the State. Visitors in neighboring communities and states have been encouraged to visit Evansville in order to observe and discuss the demonstration program. Response has been gratifying.

7. The official attitude of the administration of vocational education at the state level has made a direct change. At the time the investigator was getting the program started, he was discouraged from "wasting his time" by certain state officials. As of the present, this program is accepted as a bona fide vocational effort and the Evansville School Corporation receives reimbursement for the coordinators salaries as it does for other "vocational education" teachers. Other communities are likewise being encouraged to establish such programs as a part of their vocational education offering.

8. The demonstration project has brought national attention to the Evansville schools in terms of recognition. In 1964, Evansville School Corporation received one of eight PACEMAKER AWARDS made by the National Education Association (NEA).

9. The discipline from which a coordinator is recruited does not appear to be critical so long as adequate preservice and inservice is provided along with careful supervision. The coordinators involved in the program to date were trained as teachers from one of the following: Industrial Arts, Special Education, and Social Studies. It must be concluded that more important than previous substantive experience is empathy, creativeness as a teacher, a sense of mission, a high energy level, and dedication to serve disadvantaged individuals.

10. Special instructional materials are necessary in order to provide adequate related classroom instruction. Most areas of content covered in the "General Related Study Guide" used in typical cooperative work-study programs are pertinent. Reading level, however, must be adjusted appropriately and certain supplementary materials must be added.

11. When provided a feasible program (at a suitable level and which encompasses valid student objectives) retarded and slow learning pupils will continue in high school to learn and to associate with their peer group. In fact, so few of the cases in the control and experimental groups have left school (compared to previous experience and as anticipated) that the major research effort planned could not be conducted.

12. Opportunity for individual counseling on the part of the coordinator and special consideration from the employer-trainer is very essential for student success. Reactions and standards of conduct which may be taken for granted with average and above average students in a similar setting often fail to materialize in this population. Individual help and counseling on the part of coordinator and employer are frequently needed.

13. General concensus is that high school teachers and counselors alike have been heartened by the results of the demonstration. Their attitude toward the slow learning and retarded youth has made a positive turn as it relates to individual worth.

14. A variety of special instructional materials, teaching outlines, personnel instruments, and the printed matter have been developed which may be useful to other schools interested in such a program.

15. Progress of the trainees appeared to be seriously impaired by interruption of the training process. It was found that continuous employment, including the summer months, was most desirable in order to maintain the continuity of the training sequence and the interest on the part of both the students and their employers.

Topping Day Trade Classes

For years some of us have propounded that the best way to prepare youth for industrial employment is to use the day trade approach and cooperative vocational education in combination in order to form a total, integrated program. It seems ridiculous when we know the problems inherent in initial employment for young workers that we continue to graduate persons ready for the labor market who have learned all their skills, developed their attitudes about work, gained all their technical information in a simulated setting. At the same time, many coop students go on jobs without such essential operational skills which could be readily developed in a vocational shop setting which is available in their own school. It seems to me that if we have truly reached an "age of reason" in vocational education, we will move to shop-cooperative integrated programs rather than continue to tolerate separateness and competition among our methodologies.

Conclusion

Cooperative education has been recognized on the educational scene for about six decades. For the first four of these decades, its principal manifestations were the college coop plan involving undergraduate engineering students and the high school cooperative vocational education and work experience programs. From these beginnings (and important they are even today), cooperative plans have penetrated a wide variety of educational undertaking in a diversity of forms and under many titles. The end is not yet in sight, I'm sure. In fact, I would guess that we're seeing only the beginning.

In this presentation, I have generally not attempted to be descriptive of any particular model as it may be operated in a higher or secondary education setting. Rather, I've attempted to give a general overview of the model patterns which are beginning to stabilize or which are emerging. All of them are meritorious in many ways. Some have yet their real worth to prove.

All of us should remain alert to the possibilities of cooperative education. This is especially true of those of us in vocational teacher education. The shortage of technical manpower which is confounded by a shortage of technical education teachers poses a real challenge. It's my sincere hope that this workshop will stimulate all represented here to look upon cooperative education as a vehicle and as a methodology for the improvement and expansion of vocational and technical education throughout the land. Emerging today are models which may well become the mode of behavior of tomorrow.

INDUSTRY'S ATTITUDE TOWARD COOPERATIVE EDUCATION

W. R. Goldston

Industry's need for well-trained manpower is a subject which, by now, is familiar to all of us. I would dare say that industry today is looking for talent the country over with a zeal never before witnessed. College Placement Service has reported that over 3,000 employers visited some 1,000 colleges last spring in search of manpower. Today, industry is looking for more scientists, more engineers, more professional people, more technical people, more business and emonomics people, more stenographers, more well-trained people in vocational skills, and for people in new disciplines created as a result of our space age. A recent magazine article predicted that by 1970 there will be 13,000,000 more jobs -- some old, some new, and some whose titles have not yet been thought of.

According to the Department of Labor, American educational institutions within the next 10 years will not be able to train enough engineering and scientific people to fill the new jobs created by the expansion of U.S. industry. To meet this manpower need and to help turn out a better trained candidate faster, industry more and more is turning its attention toward cooperative work-study programs. In 1906, when young Professor Herman Schneider set up the first cooperative work-study program at the University of Cincinnati, there were only 12 firms participating and only 27 students enrolled. He had to do a tremendous selling job both with industry and his colleagues to get cooperative work-study programs started and to keep them going. For several years thereafter, industry would normally contact schools after working our cooperative arrangements with the coordinators. Today there are over 56,000 college and university students in this kind of program in more than 110 institutions, according to recent figures released by the National Commission for Cooperative Education. My own organization was one of these. However, today industry not only seeks cooperative students in institutions with established cooperative work-study curricula, but many firms are seeking our educational institutions and urging them to develop this kind of program. This type of encouragement, to my knowledge, has been going on since the early 1960's. It has occurred here at Tuskegee Institute, at Howard University, at Chattanooga State Technical Institute, and at many other educational institutions across the country.

Recently, I made a survey of some 108 industrial firms and governmental agencies to learn about their use of cooperative work-study programs and to gain information on their viewpoints and experiences with this kind of program. Of these, 92 participated in some kind of cooperative work-study program. They had cooperative arrangements with graduate schools, senior colleges, junior colleges, post high schools (technical or vocational), or regular high schools. Some firms had cooperative programs at all levels. The number of cooperative students employed at the time ranged in numbers from two with some of the small firms to 110 for some of the larger firms. Some firms participated in cooperative programs with as many as 111 schools. Of the firms that had no cooperative programs, over 50 percent wanted to or had made some effort to get a program started. While a majority of the firms did not report difficulty in filling cooperative positions, 38.7 percent reported that they were experiencing some difficulty and few firms thought that they must abandon their programs in some majors unless the number of students available for the program improved.

In my survey, I attempted to contact a representative cross-section of industrial organizations including some of our largest space agencies. I found that the majors in which these organizations are interested are broad in scope. They include a wide variety of disciplines -- engineering, the natural sciences, business administration and accounting, liberal arts, electronics, computer science, mathematics, transportation, engineering technology, drafting, secretarial science, industrial arts, personnel administration, marketing sales, forestry, home economics, data processing, agricultural economics -- the list goes on and on. These findings are in accord with those of the experts in the field of cooperative education like Dr. Roy L. Woolridge, Director of the National Commission for Cooperative Education, Inc., and Dr. Ralph W. Tyler, Director, Center for Advanced Study in the Behavioral Sciences, who state that the cooperative plan can be successfully adapted to the needs of higher education in many fields.

While a few of the firms I have contacted have experienced some problems in the operation of their work-study programs, nearly 98 percent of those commenting on their experience praised and highly endorsed this kind of program. There were such expressions by company executives as: (1) "The coop plan is the best way I know to get a college education. ... I attended college on the coop plan from 1935 to 1940. ... I know that my coop experience was very helpful in learning engineering." (2) "We are strong believers in the merits of a good coop program. It is an excellent recruiting tool and also beneficial to the student. The program has be be closely supervised to be effective." (3) "Our program bas been in existence since 1927 -- very successful and highly respected by students and graduates." (4) "As a company, we are sold on the engineering co-op program. Speaking personally, if I had a chance to live over again, I would go co-op." There were many more favorable comments, but these appear typical.

Now this tremendous growth of cooperative work-study programs in the past 61 years, these constant requests on the part of industry for the initiation of more such programs in more educational institutions, these efforts on the part of industry to expand present programs, this broad spread of cooperative work-study programs to include many majors, these expressions of industry's experience with this kind of program -- all indicate, in my opinion, that industry generally has a favorable attitude toward cooperative education.

Why Industry Has This Favorable Attitude

Why does industry have this favorable attitude toward cooperative education? The reasons are many. I shall talk about a few of them.

Foremost among the reasons why industry has a favorable attitude toward cooperative education is that this kind of program provides a valuable recruitment source. In the survey which I referred to earlier, I found that among the firms that participate in cooperative work-study programs or that desire to participate, over 73 percent stated that their primary interest is recruitment. Fourteen percent stated that recruitment is secondary. Five percent said that recruitment is their third interest; and eight percent said that recruitment is their fourth, fifth or sixth interest. This sort of interest has also been found by experts in the field. Dr. Thomas Tutwiler of Adelphi University, for example, stated on one of his radio appearances that "one of the greatest features from the point of view of the employer is his interest in it (the program) as a long range recruitment device." He further stated that the employer "gets a chance during the work period to evaluate the potential talents and abilities of the students. He's also able to get benefits out of them." I hasten to add that industrial firms know the coops they have employed. They helped train them, and the bright ones and those with potential, the cooperating employer wants to keep.

Although cooperative work-study plans do not usually obligate the student to the participating company, experience indicates that about 50 percent of the students remain after graduation with the participating employer. With TVA, however, the retention rate is about 40 percent. It is much better with companies such as Ford, General Motors, and some of the larger corporations. One research firm reported a retention rate of about 98 percent. I have found in my experience, nevertheless, that recruiters really go after the coop graduates regardless of the firms with which they obtained their coop experience.

Second, industry has a favorable attitude toward this kind of program because it provides the employer with an available source of manpower to do many of the subprofessional and semiskilled tasks that must be done. Through experience, the employer has found that professional employees grow tired of performing tasks that are beneath their educational level and those that are not challenging. These jobs appear to be above the level of the high school graduate, and the two to three-year college man is usually looking for something better or a way to advance. On the other hand, work assignments are usually made at the academic level at which the cooperative student first enters the firm. Following each school period, the student is assigned more difficult work. My contacts with firms that participate in cooperative work-study arrangements indicate that it is the general practice for cooperative students to be assigned progressively more difficult work and that they relieve professional personnel of subprofessional or unskilled work they would otherwise do. In some cases, they perform on the professional level during their senior year. In any event, the coop student is challenged; he is doing what he wants to do; he is happy; and the employer gets the work done.

Third, industry feels that the cooperative system of education increases the quality or depth of education the student receives. Ninety-seven percent of the industrial organizations from which I have gathered information expressed the opinion that the cooperative student gets a considerably better or a much better quality of education than his fellow students who do not participate in this kind of program.

The cooperative student is on the forefront where things are happening -- where new procedures are being adopted; where new equipment is being installed; and where new materials are being tested. These materials and equipment in some cases are of the type that the school cannot afford, but industry must obtain them in order to stay competitive. The cooperative student who may be the "right hand" of a journeyman or experienced engineer gains valuable information about this new complex equipment or these new materials, or a new method. In many instances he takes this information to the classroom where he either makes an oral statement or a written report. This very act stimulates the professor who may visit the plant and investigate, or he may take a summer job in that plant or a similar plant to learn in depth information on the subject. This kind of experience keeps the professor alert, and abreast of changes in his field, and in some cases he may recommend changes in the curriculum to include these new developments. This kind of carryover, according to Dr. Tutwiler, Director of Cooperative Programs at Adelphi University, serves "to keep the faculty on their toes... because they can't give the same lecture over and over again to students without some reference to the changes that have taken place in the field."

Some industrial firms have set up elaborate training programs within their own boundaries and have assigned highly qualified supervisors to guide coops and to supplement their classroom training in areas where they are weak. One company has inserted in its cooperative education program objectives: "To develop the students' knowledge of engineering procedures and train students in methods and procedures related to ... (the company) so as to make them more valuable employees sooner than would be normally possible." Experts in the field are in agreement that cooperative education is qualitatively superior in some respects to the conventional college education.

Fourth, industry feels that coop graduates are better adjusted to an industrial climate. The senior college coop student upon graduation usually has had from 16 months to two years' work experience in the type of industry in which he plans to work. During this time, he has learned many aspects of his job that should make him ready for the world of work.

He gets some knowledge as to how his job fits into the operations of a total organization. He gets the feel of working in an adult environment and obtains information about problems he may expect to encounter in working with equipment, materials, and men. He develops maturity and a sense of judgment. He learns to respect the opinions of others -- that to get the best results, people cannot be driven. He sees that at the top level of management are people with good judgment, planning ability, and broad understanding.

Fifth, industry is favorably disposed to cooperative education because of the economies in time and money that are effected through well trained coop graduates. Keen competition, the gast pace of the space age, and rapid technological change demand that today's graduate "hit the ground running in high gear." There is little or no time for "Wheel-spinning," "backing up," or "changing directions." The coop student goes through his trial and error period at work while he is still enrolled in school. His errors are observed by some alert supervisor who will detect his faulty practices and correct them early.

The coop student also becomes aware of the cost factors involved in production. He learns that in order for his employer, for example, to meet the terms of his contract and still stay solvent, he must think in terms of labor costs, quality of productions, and time tables. Since all of his training and experience have been pointed in the right direction, this coop student upon graduation reports to his employer with all signs pointing "go".

Sixth, industry has a favorable attitude toward cooperative work-study programs because they improve the company image. This factor is especially important to small companies that are not in position to compete with large companies on the college campus. Competition is keen for good students or for any student in certain areas. Many employers can send two to four or even more recruiters to one campus. However, some of the small or new companies get much of their publicity through their cooperative students or someone within the college family. By providing the cooperative student with challenging work in his field and helping him to learn new skills and procedures, by giving him adequate recognition, and by showing genuine interest in his welfare and his educational advancement through special educational programs, the company creates in the cooperative student not only a desire to return to the company after graduation, but he may persuade some of his fellow students to go with him. This tie-in with the school through the coops is stimulating to industry and creates a relationship industry wants to maintain.

Some firms have written into their cooperative work-study program objectives, statements to the effect that following education, even if the cooperative student doesn't want to "get on board" with their company, the company will have provided an "Ambassador of Good Will".

Problem Areas

I have talked considerably about why industry has a favorable attitude toward cooperative education. However, as I have mentioned before, there are many problems connected with the successful operation of cooperative education programs which are causing many industrial organizations concern.

It is the general feeling of industry that in order for a cooperative work-study program to operate successfully, there must be a steady supply of cooperative students. About 40 percent of the companies contacted, state that they are still having some difficulty in filling cooperative positions and, as stated earlier, some firms have abandoned cooperative work-study programs in some majors because of their inability to get students. There is also the feeling that unless there is a stronger, more intensified selling job to both students and parents on the value of cooperative work-study programs, such programs may suffer in the future. The desire to get out of college in four years, the easy money of loans, the availability of good paying summer jobs, are all factors which are having adverse effects on the supply of coop students. Those who have had unfavorable experience with the program indicate also that the "shopping" attitude of some students are not good for the program. Industry wants continuity of participation. When students are left free to come and go as they please, persuade the coordinator to make commitments to firms and then fail to report, drop out of the program early, or jump from one industry to another, they create trouble for the company. There is the additional feeling that the coop students should make up their minds thoroughly before they enter the program. When they do decide that this is what they want, they should respect their commitments. This does not mean that a student should stay in a particular program if he finds that he has chosen the wrong field or the wrong phase. A coop student in mathematics or physics, for example, may decide that engineering is better for him or an engineering student may decide that he had rather be a technical writer rather than a practicing engineer. If this is earnestly what he wants, then he should change. He should, however, find this out early and should change only after proper consultation with his employer and the school coordinator.

Academic Level for Starting Cooperative Students

When students should start in the cooperative work-study programs is very important to industry. However, there does not seem to be any particular period that is suitable to all firms. Some firms had rather make the initial contacts with prospective coop students while they are still in high school. Some like for them to work a period with the company before they enter college. Others want them at the freshman, sophomore, junior, or senior year level. Some can adjust their programs so that they can take them at any class level. Out of 83 firms expressing an opinion about their coop work-study program on the college level recently, 37 percent preferred to start coops in their freshman year or earlier; 39 percent in their sophomore year; and 13 percent in their junior year. The others would take them at the senior year or any college level. Those companies that have programs with high schools and technical or vocational schools appear to prefer their coops in the junior or senior high school year or after one year for technical or vocational school students.

Conclusion

The growth, development, and the broadening scope of cooperative work-study programs over the past 61 years and industry's present demands for cooperative students appear to support the conclusion that industry's attitude toward cooperative education is favorable.

Industry appears to be willing to use its men, materials, and equipment to make a contribution to education and wants to lend its help in meeting the demands for well-trained, well-adjusted, economy-minded young persons who are ready to assume responsibility in their chosen careers.

"INDUSTRY'S ATTITUDE TOWARDS COOPERATIVE EDUCATION"

F. W. Ragan, Jr.

First, I would like to thank Jim Harris and Dean Welch for inviting me to the Workshop and also apologize for not having been here before today.

To put my comments into the right perspective, I think I should tell you that I will be discussing cooperative education as it exists on the college level, particularly engineering cooperative education. Should you have any questions during my comments please feel free to interrupt.

Mr. Goldston has pretty well given you some specific cases of industry's attitudes towards cooperative education, so I would like to give you what we consider are general attitudes toward cooperative education; why these attitudes exist, and give you some idea of how we at Western Electric in North Carolina run our cooperative program.

I was asked to tell you about our program and give you some idea of how one industry has run this particular program. I can not say that it is the best program in the world, but for us and the engineering cooperative students, so far, we have met our needs.

First, industry's general attitude towards cooperative education is very receptive. Of course, there are some who are completely against it. Those against it say that it is a "make work" program. It is just no good. They also say that "you baby the students". Some of our supervisors have the theory that you get the job done and drag the coop student. And it is really bad.

Then, if we have this attitude, what do we do about it? The first thing is too try to have as good a cooperative program as we can. We discovered in some of the discussions with other coop directors, particularly those at the coop conference at Calloway Gardens a couple of months ago, that industry's attitudes toward cooperative education are only as good as the coop program with which they have been associated. If you have a good program in your company, fine. If it has been forced upon the line supervisor, then you have problems.

This, of course, leads me to out program in North Carolina and what I would like to do is explain how we handle an engineering coop student coming to us.

But first, what is our program? Mr. Goldston did not take a survey with Western Electric in North Carolina and we feel kind of bad about this. But, I am interested in seeing some of those results.

Our primary purposes is not recruiting. Of course, we know that if we have a coop program, recruiting will be helped. By the same token, we know that if we have a bad coop program, it can hurt on the campuses. In fact, we feel that a bad coop program hurts more than a good coop program helps. Our primary purpose is to project or get a company image on campus.

When we first started our programs, we decided to sell upper management on cooperative education. We prepared a brochure which contained some of the information for presentation to our staff. Since we are fortunate enough to have good supervision or good upper management, they liked the idea. It was not too strengous a sales job to get them to accept the cooperative program. A lot of them had already had experiences with cooperative education and it helped a lot.

I am afraid that's only half of the story or possibly a third of the story. Unless you sell the line supervisor, the department chief, or the supervisor to whom the coop student will be reporting, you have not really started to scratch the surface. These are the men who will either make or break a coop program. So our first step was to really get to these supervisors, the line organization supervisors that coop students would be reporting to and do a sales job on them. To give them the purpose of our program, what we wanted to gain from the program, the advantages that we felt were involved for both the student and the school, and of course, logically to the company. To do this, we set up a coop committee to be composed of persons from three organizations. This committee would be set up to handle engineering problems and to coordinate the engineering work force for the company. They assist with college relations, coordinate the coop program, and evaluate job assignments and descriptions for the coop program. They also perform normal EPR functions or engineering personnel functions.

Then our organization, particularly the college relations organization or personnel, would do a personnel check: We keep the necessary records, take care of any living accomodations or travel problems, and keep up with the coop student. We end up being just about a big brother to them.

In the case of our coop students they report to the second level management. This was the particular area of supervision that we set out to "brainwash", I guess. We wanted them to give us their pros and cons for cooperative education and then we wanted to sit down with them to tell them what we had in mind, our purpose and the advantages that we felt that the company could reap, and also the advantages that the schools, communities, and colleges would gain from cooperative education.

After we had our so called "brainwashing" sessions, we then went back to these same department levels or line supervisors and asked them to identify any areas that they felt a coop student could fit into. Above all, we asked for any areas that would be a challenge for a coop student, from a first quarter sophomore to a rising senior.

At any rate, we have some very good job descriptions. We then took these job descriptions to our coop committee and went through each one. These job descriptions were written up to cover the quarter system and covered seven quarters.

After getting the job descriptions, we then took them to the schools to which we wished to have coop affiliation. We looked first at schools from which the largest portion of our engineering force was drawn. We actually set up about five or six programs. These are mainly at schools in the Southeast region, including Tuskegee Institute.

Sometimes coop programs are judged by the number of students you recruit that were formerly in your program. This may be a good way to judge a program, but we do not think so. That is probably the reason we have made out goal for coop education one of placing the image of the company on campuses rather than the number of coop students we recruit. But this is not a very good qualification because there are so many reasons why a student or a graduating senior may not go with the company that he is cooping with. This may be a good thing for the student, because he may have found that this was not the particular area of industry in which he wanted to work. As far as we are concerned, we can still accomplish our purpose in having our company's name and image on campus. If it is going to have a favorable affect on our recruiting, then any of the students he has talked with back at the school will show up.

What do we do when we get the students? Before they get to us, we have them matched up with an organization in which we think they can fit. The first thing we do is to find a spot for them, for their particular curriculum. We also interview them to see how they will fit into the line of the company organization, and if no problems develop we assign them to that line of organization. We try to see a student who is on the quarter system about twice during a quarter. If he is on a semester system, we try to see him two or three times during the semester. It is a very good meeting with these students, because you get them away from the job and you can get some indication as to whether they are satisfied or not. If there is some dissatisfaction, we discuss this when we have our coop meeting with all three areas. We sit down and discuss the problem of why this student is not getting a good challenging experience. In most cases, we have found that the line organization simply did not know how smart these students were. The students had progressed a whole lot faster than the organization had anticipated.

The one thing we try to keep away from, and the one reason I mentioned we only try to see these students once or twice a quarter and more during the semester, is that we do not want them to feel that he is being pampered. When he walks into the line organization he is told "you are a full time employee and we expect you to do a days work". They try not to pamper them, and these students do not want to be pampered. They will tell you if they feel that they are getting special treatment. We try to keep away from the student because we do not want to bother the line organization.

Now as I said, there are some areas that we try to stay away from in coordinating the program. We try to not burden the line organization with large amounts of paper work.

We have also decided that if we find that we have made a bad match (this has not happened yet, but it probably will), that is we have a coop student in the wrong job or the wrong job for the coop student; we have already set up alternate areas that these students can be moved into so that it will not interupt their education or interupt the coop program.

We do give the students a general explanation of the management structure and where our particular location fits into the overall company program.

Well, back to industry's attitude toward cooperative education. In general, we at Western Electric are very satisfied with cooperative education. As you can see from the survey that Mr. Goldston has made, and as I have found out while discussing cooperative education with other company personnel that have coops, that most industry's are very happy with the cooperative education program.

"THE ROLE OF STATE EDUCATION DEPARTMENTS AS RELATED TO COOPERATIVE EDUCATION"

J. F. Ingram

I would like to say a few words relating to the background of vocational education. I would also like to talk a little bit from my personal background. In my age, most youngsters grew up with an opportunity to obtain some work experience. I believe that one of the most important parts of an education for an individual is teaching them to accept and respond to responsibility. How are you going to do it? The only solution that I have found so far - some of you might have found other solutions - is the vocational cooperative type of education.

It has been my observation for the 30 years that I have been in this work, that I can almost walk into a high school and stand in the hall, and watch the youngsters pass; then nearly point out those who have been in the coop program for as much as a year. They take on a different attitude, and radiate something that the other youngsters do not. They mature a little bit more. Because they have a feeling of responsibility, a feeling of belonging and worth that come to people through the acceptance of jobs and responsibilities. Even if for no other reason, the cooperative education program is of significant value in that respect.

Several years ago, I polled the employers of people who worked with coop students and asked them this simple question. What will you pay a coop student per week when he has completed the kind of program that he is now in with you? What will you pay a high school graduate just out of high school who has not yet had this experience? The result was that they said that they would pay the coop student $16 more per week than they would pay a high school graduate that they had just picked up off the street. So from that standpoint, the worth of this program is tremendous. Not too many people realize the extend of coop education in this state.

Up in the East and North where the states have always had more money than we have in the South, they built hugh well-built trade schools and they depended on those trade schools for vocational education.

The people in the South, and I think that Alabama is probably one of the leading states since we did not have money and trade schools, devised this plan of putting youngsters out on a job under supervision to learn the skill; while at school we taught the English, Science, and what they needed to understand what they were doing on the job.

I suspect that we already have probably more than 150 such programs throughout the state. We have one in Tuskegee, eight in Montgomery, fifteen or sixteen in Birmingham, and quite a few in Mobile. I am saying all of this as background so that I can tell you what I think the role of the State Department ought to be. If this is sound information, and it is, the State Department should be interesting and involved. Then it is one of the finest type vocational education program if it is conducted properly. I think that the division of vocational education of a state department of education, not only the vocational division but all of it, should lend every encouragement to the success of this type of program for our youngsters while they are in high school.

You can not offer as many occupations in a trade school as you can in a coop program. I recall when I was at Lanier High School as a coordinator. At that time a boy could go into an undertaking establishment and learn to embalm. I trained quite a few boys in the funeral homes in Montgomery. But, you can not set up that kind of program in a trade school, because you cannot get any material to work on.

I saw one program in Oklahoma where I felt that the school was doing an excellent job. The arrangement had been worked out with the union. The Board of Education gave this school a certain amount of money. They said to the school, now you can buy a lot, buy the materials, design a house, build it and then when it's finished, you can advertise it for sale to the highest bidder. You can take what you get and start over by buying another lot, etc. They turned out some real good craftsmen. But you cannot do it unless you build houses. Now in the coop program, you have an opportunity there to put a young person out with a good carpenter who will agree to teach him and let him learn and let him do. So from the standpoint of offering courses that you can not very well offer in a trade school, the coop program will be very important.

Since the coop program operates in the coop schools, then I think that the director of the secondary division should be knowledgeable of the program, understand it, see its worth, and should encourage high school principles to accept, supervise and operate the coop program as it should be. So to me, this is part of the role of the state department of education. I think of the understanding and promotion of this kind of education as being sound education, as being desirable education, and worth while education.

The coop program has a slight advantage over some others because the student can participate in a lot of school activities that he would not be able to participate in if he were centered off in some separate vocational school somewhere. He can remain a member of the student body. The promotion angle and the information angle is important. But I think that what is more important is that the state department of education should provide the leadership which will result in a sound program.

I have not thought too much of a program where you just put a boy or girl out to work. That has no value. But if that is all that it is - a job - then the educational value is limited. Now it still has a value of teaching responsibility and I agree with the grant then of the U.S. Office of Education that it will be fine if we could provide for all boys and girls while still in high school the opportunity to work and develop work habits and attitudes. But in order to divorce that in our thinking from what we are talking about here today, we are talking about an education program here, which the work experience is only a part. If it is supplemented and augmented through good sound instruction, it can be of best value to the school, student, or community. Let me tell you how we have conceived the role of the school in the coop program. First of all, it is the duty of the school to provide adequate and sound counseling to the youngsters in order for them to understand the world of work, and for them to select what they want to do in life.

I do not think that any counselor has any business telling any student that he can not do this or he can not do that. Counseling out to be educational. If a student hates mathematics, you ought to try and keep him out of an area where a lot of math is involved. Although, that is not always true either. I had a student who was very poor in mathematics, but he insisted on getting into an occupation where a good deal of math was required. When he saw the usefulness of math in what he wanted to do, he became interested in mathematics. So then, he could understand it when it was applied. We can not always judge a student by his academic record. So, the leadership role of the state department of education in promoting sound cooperative work experience type of program is very important. I can not stress too much, because I think that it is terrifically important.

We never understand to sit down at a desk and make a curriculum for an occupation. Those of you who are familiar with Dr. Procer's 16 theories, know that - one of them is - the only person with whom we can get what a person needs to know and to be taught is a person in the occupation. What we do is to get a committee of the best people in that occupation and as well educated as we can find. We have people on the staff who have been trained. We say that they are trained to put the suction pump on the minds of craftsmen and pull out of them what people have to do, person in an occupation have to do. We go back and say, does a person need to know a particular aspect in order to perform the task intelligently and understand what he is doing. So we pull out of them the kinds of math and amounts, physics, chemistry, whatever it is the individual needs to be taught to be an effective worker in that occupation. Remember, we get that from people in the occupation.

A problem is that a craftsman may know it so well that he does not think about the fact that when somebody else is learning it, they have to learn each little thing that he knows. So I think that it is the role of the state department of education to get that kind of interrelationship, intercommunication, understanding, as between the people who are going to train the students on the job and the coordinator who is going to coordinate his instructions in school, home, on the job, and in the community. I have often said, and I would like to repeat at this time, that this can be the best kind of education. But believe me, it can be the sorriest too. It depends wholly on the coordinator. When I say that I know that you have got to have good on-the-job training agencies or employers. But the good coordinator will see that that happens. If you will do like I did when I worked out an arrangement with an automobile machine shop, the person who owned the shop was in full agreement and we understood it, but the person who is going to supervise the student didn't understand it. The owner did not make it clear to him. So I found that all this boy was getting to do was scrub the floor, wash greasy parts, and to do the dirty work. So, I went to see the superintendent. I got a report from every student as to what he did that day. The employer had a list of what he was supposed to be teaching and I had a list. I went down and said that I noticed that this boy was reporting every day, scrubbing the floor and washing greasy parts, and asked how long was he going to have to do that before he moved into something else. He said well, he would have to do that until somebody dies or retires or resigns. I said that today would be the last day for the student to be there because that is not training. It is that type of thing that can make the program lousy. I think there is room for improvement on the part of principals and local superintendents. They should keep a tab on this type of vocational education, because leadership and encouragement is what I consider to be one of the functions of the state department of education that is of great importance.

If education is vocational if given at the time when the student needs it, and is going to use it in learning an occupation. It can be latin, physics, etc. if they need to know parts of these.

It can be from any subject field, but it is selected on the basis of need and occupation.

The state department has some responsibility to help set minimum standards. I have never believed in any group or program that was so rigid and ironclad that you had no leadway for innovation and experimentation. I also believe that there is some minimum below which standards should not be permitted to fall. One of the standards that we held in our state and still hold is that a coordinator who is going to do this kind of work simply must have worked for wages for the last three years, plus be a graduate of a four year institution. Why did we require this? For instance, my background was carpentry. I never did have carpentry in my coop program. What good did that do? I learned first of all what it is to make a living. I learned how to get along with my fellow workers. I learned how to get along with the boss. I got an understanding of people who are attempting to earn a living. It just gave me an insight which enabled me to be more helpful.

A coordinator is a person who has been through an experience and can be helpful to the student. The coordinator back in my time used to be referred to as being like a booster engine on a railroad. He said that when you have a train going up a mountain it reaches a point wherein the engine that is pulling it can not pull it. At that point the booster engine would come in and give him a boost to get him over the hill. It then breaks loose and waits for the next. He said that is the way a coordinator is.

A student is learning under a program that has been developed; and when he hits a part where he can not quite get over the hump, the coordinator steps in as a booster engine and helps him over that difficulty, thus enabling him to move on. That is really a good concept of what the coordinator is and what he should be. Then, of course, the state department is a part of this matter of standards. We have a method of certifying coordinators and issuing certified based on their having met certain requirements of education and work experience. That is one of the ways that we can enforce standards. I realize that the fact that a person works for three years does not necessarily mean that he got from it what he should. You know some people have one year of experience three times. Other people have three years of experience. There is a difference. So we try to find the people who have had three years of experience. Otherwise, we are depending on a situation that is not very sound. We do investigate the background of individuals when they come to us, and find out where they work, what they did, and how satisfactory they were; we look at their wage records to see if they made progress or stayed the same rate all the time. The matter of standard is important. If you do not have sound standards you can not have sound education.

As I see it, these are some of the relationships and some of the responsibilities of the state department of education to coop work experience. I also think that whether a student comes into the coop program or not, if we can assist in getting some work experience for him, just for what he will learn from work, I still think that it is good education and I think that the department of education should encourage that, but keep separate in the minds of the public and everybody concerned that this other thing is a planned educational program made up of experiences on the job and instructions related to those experiences. That is by far more desirable, but not in all cases can you find that kind of opportunities for all students, and in many cases students just do not want, at that age, to enter into this sought of thing. Many of them plan to go to college and many of them pretend to because it is socially proper to pretend you are going to college. One of the things we are doing right now is that we are attempting to eliminate some misconceptions about the occupation. Almost everybody says that in order to be any kind of success now, you have to go to college. But this is not so. One boy who finished trade school is making $14,500 per year. But money is not everything. But it is the gage of worth they put on an individual. This boy is not really an exception because he is in the electronics area. And in the electronics field, there is such a great demand that if a person gets well grounded in that field skies are limits for him. The thing of college education is not over sold for the people who need it. But it is terrifically over sold as to who ought to go to college. It is terrifically over sold as to what a college education can do for you. You have read it, heard it, and seen it; that if you go through grammar school you are going to learn this much, and if you go through high school you are going to learn this much, and if you go through college you are going to learn this much. I can find you as many high school graduates as there are high school graduates today in this country whose annual salary will far exceed that of your college graduate. The problem is that we are comparing rabbits to horses. You don't have as many college graduates and they are gravitated upwards, but you have a lot of high school graduates good, bad, medium, fair, and others. Of course, when you have them all together like that, that is probably true, but compare the same numbers and let me pick the high school graduates and I will pick you some people whose annual salary will exceed that of a college graduate. This is the kind of thing that we have got to get over to young people. One of the ways to do is, I think, to talk to them more about getting into an occupation through which they can serve people, and enjoy what they do.

People who are working in an occupation that they do not like are the most miserable people in the world. Those in occupations where they like what they are doing are the most happiest people. Another thing that we are trying to eliminate in the minds of a lot of people is that everybody is going to change jobs five or six times in a life time. You have heard it. That is not necessarily true. When we tell people that they are going to change jobs four or five times in a life time they are not too concerned about learning a job. But if we can help find a thing that they want to do and like to do, chances are they won't actually change jobs. One other thing that we are trying to do also is to teach and show the young people that the entry job they prepare themselves for should be a first run to a career. If a boy sees that he does not like auto mechanics he does not have to stay in auto mechanics all of his life, and we show him where he can go from there. There are plenty of places he can go. We do that in every occupation. We have 57 vocational counselors in this state right now and each one of them is today engaged in developing, e.g. auto mechanics, right now, sought of a graphic illustration a career man in auto mechanics can aspire.

If you do that, you can build in the kid some pride in what he is doing. I don't think that many young people would start out and say that I am going to be a brick mason all of my life. It is a good occupation and good pay, but a brick layer does not have to stay a brick layer all his life. These are the things that we have to relate to young people. So I think that this is a part of the responsibility of the state department of education for us to understand these things, and for us to encourage other school people to show youngsters that they can start on a career in this occupation but they can go here, here, and here. I think that this is part of the responsibility of the department of education and particularly the division of vocational education.